Meeting of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction

24 July 2018

English only

2018 Meeting
Geneva, 4-7 December 2018

Meeting of Experts on Cooperation and Assistance, with a Particular Focus on Strengthening Cooperation and Assistance under Article X
Geneva, 7-8 August 2018
Item 4 of the provisional agenda
Consideration of the reports of the States Parties on their full and comprehensive implementation of all provisions of Article X

Australia's Article X report for 2016 and 2017

Submitted by Australia

I. Introduction

1. Australia is a strong supporter of the BWC, including implementation of Article X which reinforces the security objectives of the BWC, as well as encouraging peaceful uses of biological science and technology. Australia's commitment to countering the proliferation of weapons of mass destruction and guarding against global health risks are clearly articulated in the 2017 Foreign Policy White Paper.

2. Facilitating the international exchange of equipment, materials and scientific and technological information for the peaceful use of the life sciences helps to prevent the global spread of infectious diseases. International cooperation also builds capacity to respond to disease outbreaks (whether caused naturally or through the hostile use of biological agents or toxins) and can provide incentives for States to accede to the BWC.

3. The Australian Government supports a range of programs that facilitate research, development and commercialisation in the life sciences, including industrial and agricultural biotechnology. Australian Government initiatives complement the work of Australian industry and academic and research institutions in the biological sciences.

4. Australia's annual BWC Confidence Building Measures (CBM) submissions provide detailed information on relevant research and other activities undertaken within Australian Government agencies. These submissions are publicly available on the BWC website. Many of the programs and activities reported in our CBM submissions also meet Australia's obligations under Article X to build capacity to prevent the deliberate use of disease as a weapon as well as disease prevention and addressing pandemics and emerging infectious diseases.

II. Countering biological terrorism and counter-proliferation

5. Australia continues to cooperate with our partners to strengthen capacity in the Indo-Pacific region. Some current examples are highlighted below:

- Australia co-funded and participated in a workshop on biosafety and security, including tangible and intangible technology transfers, co-hosted by the UN Regional Centre for Peace and Disarmament in Asia and the Pacific and the Government of Thailand in Bangkok in 2017.
- Australia is participating in two of the 11 Global Health Security Agenda (GHSA) packages as a contributing country. One of these is the "Linkages and Multi-sectoral Rapid Response Action" package which will enable a country to conduct a rapid whole-of-government response in the event of a biological incident that is suspected or confirmed to be deliberate. This includes linking public health and law enforcement and providing or requesting effective and timely international assistance.
- Australia continues to participate in international and domestic counter-terrorism and counter-proliferation CBR capability-building exercises and training programmes. This includes the ongoing provision of funding for the delivery of a quality assurance program to enhance laboratory capacity and capability to test for biological agents of security concern within Australia and other specified overseas laboratories.
- The Australian Animal Health Laboratory (AAHL) engages with a number of laboratory networks, at the national level (including the Australian Public Health Laboratory Network and the Australian (Counter) Bioterrorism Laboratory Network) and at the international level (including other BSL4 Laboratories). These collaborations encompass a range of activities including sharing technical knowledge, training opportunities, developing procedures and agreements for sharing of samples etc.
- As an international reference laboratory, AAHL is requested by diagnostic laboratories and sponsoring agencies (e.g. the Food and Agriculture Organization [FAO], the International Atomic Energy Agency (IAEA) and the World Organisation for Animal Health [OIE]) to provide reference controls to diagnostic laboratories internationally. This material is despatched in full compliance with Australia's strict export controls.
- Experts from AAHL have also participated in international seminars and exercises, including the 2nd OIE Global Conference on Biological Threat Reduction "Enhancing Health and Security for All" in 2017 and UNSGM training courses.
- Australia continues to develop a medical countermeasures capability that benefits from collaboration with our partners in the defence and public health community. A nation-wide audit of Australia's medical countermeasures capabilities in 2017 has provided a wealth of data that will inform efforts to build our preparedness against chemical, biological and radiological threats, emerging infectious diseases and pandemics. The results of the audit are being used to shape recommendations on how to sustain and grow a robust Australian medical countermeasures capability. The revision of Australia's Smallpox Plan is expected to be finalised in 2018, pending incorporation of modelling which is currently underway. The modelling will inform both planning and National Medical Stockpile holdings.
- Australia has also developed a new approach for the toxins Abrin and Ricin. The Abrin and Ricin Plan, which is expected to be finalised in 2018, sets out the agreed mechanisms through which coordination of the national health response to a

release of either of these toxins would occur. The Plan aims to promote more effective planning, better preparedness, and a more rapid, integrated and consistent health response to a release of Abrin or Ricin.

6. In collaborating with international partners, Australia continues to underline the need to strike an appropriate balance between enabling peaceful biological research consistent with the objectives of the BWC, and minimising the possibility of misuse of this research and associated biological materials, equipment and technology. Biosafety protocols and ensuring the security of toxins and pathogens is a fundamental element of our international cooperation.

III. Disease prevention and addressing pandemics and emerging infectious diseases

7. As we have highlighted in earlier reports, Australia is committed to building capacity to address pandemics and emerging infectious diseases in our region.

8. For example, Australia's new Health Security Initiative aims to improve regional health security through promoting strengthened health systems and innovative research that can address emerging infectious diseases and drug resistance. The Initiative will also work to accelerate access to new and effective tools, assist regional collaboration, and build people-to-people links and networks. These efforts support Australia's implementation of BWC Article X, and recognise that the prevention, detection and control of pandemics and emerging infectious diseases are a global public good that no single country can provide on its own.

9. Investments under the Initiative, totalling AUD300 million over five years (2017-2022), will be managed by Australia's newly established Indo-Pacific Centre for Health Security (http://indopacifichealthsecurity.dfat.gov.au/Pages/default.aspx) and includes:

- up to AUD75 million for a Product Development Partnerships Fund to support the development of innovative treatments and diagnostics for malaria and tuberculosis, with a particular focus on drug-resistant forms of these diseases, and the development of products for the control of vectors that spread infectious diseases;
- AUD16 million for applied health systems and policy research led by Australian institutions;
- AUD20 million for the World Health Organization's (WHO) Health Emergencies Programme;
- a partnership between the Department of Foreign Affairs and Trade and the Department of Health's Therapeutic Goods Administration to strengthen regulatory capacity in the region;
- a new health security corps to place Australian public health professionals in non-clinical, capacity-building roles in the region, with the aim of supporting up to 20 volunteer placements each year;
- supporting fellows from across the ASEAN region to undertake a two-year Master of Philosophy in Applied Epidemiology at the Australian National University, increasing capacity in the region to track and respond to pandemic and infectious disease threats;
- exploring broader deployment options to support short-term paid deployments of health professionals as part of coordinated outbreak response mechanisms; and

- exploring options for supporting pandemic and outbreak response financing mechanisms.

10. In addition, the Centre is currently in the process of identifying priorities for county- and regional-level assistance to South-East Asia, Papua New Guinea and the Pacific Island countries. Two separate scoping projects are underway, one visiting Fiji, Papua New Guinea, the Solomon Islands and Samoa; and the other visiting seven countries in the South-East Asia region. Outcomes from these consultative projects will be used to inform the Centre's future strategic priorities and partnerships in the region.

11. In addition to the Health Security Initiative, a number of Australian Government agencies provide technical support and capacity building to combat infectious diseases in partner countries. Agencies often work in close collaboration with regional partners and multilateral organisations such as the WHO, OIE and the FAO.

12. Some practical examples of current and recent Australian activities include:

Department of Health

- In 2015, Australia contributed AUD8 million over three years to the World Bank to establish a Multi Donor Trust Fund to support the financing of health systems by national governments to address a range of infectious diseases and health threats.
- Australia is also contributing to the GHSA package focussing on preventing antimicrobial resistance (AMR). Our 'One Health' approach coordinates Australia's efforts across animal and human health, agriculture and food sectors to reduce, monitor and respond to AMR. The objectives of Australia's National Antimicrobial Resistance Strategy 2015-2019 focus on: infection prevention and control; surveillance; antimicrobial stewardship; international engagement; communication and education; research and development; and governance.
- Australia makes a significant contribution to global pandemic preparedness by collecting, sharing and analysing local influenza viruses to provide data to the WHO Global Influenza Surveillance and Response System (GISRS), through the Melbourne-based WHO Collaborating Centre for Reference and Research on Influenza (WHO CC) and three National Influenza Centres nationwide. The GISRS holds data on currently circulating influenza viruses in the global human population which is then used by the WHO to recommend the appropriate viruses to be included in annual seasonal influenza vaccines. It also serves as a global alert mechanism for the emergence of influenza viruses with pandemic potential.
- Australia continues to support the WHO CC through a funding agreement with Melbourne Health first established in 2005. The WHO CC also provides support and training opportunities to laboratories in the Asia-Pacific region that contribute to GISRS.
- Australia is a signatory of the Pandemic Influenza Preparedness Framework (PIP Framework), and strongly supports WHO's implementation, particularly in the Western Pacific Region. The PIP Framework is a partnership between the WHO, WHO member states, industry and other stakeholders aiming to improve and strengthen the sharing of influenza viruses with human pandemic potential. It also increases the access of developing countries to vaccines and other pandemic-related supplies, and pandemic preparedness capacities such as laboratory capability and surveillance systems.
- In 2017, Australia provided AUD2 million to the Coalition for Epidemic Preparedness Innovations (CEPI), to support development of vaccines to fight emerging infectious diseases.

- Australian experts continue to participate in Joint External Evaluations (JEEs), which incorporate GHSA competencies. The JEEs assess country capacity to meet the International Health Regulations.

Department of Agriculture and Water Resources (DAWR)

13. Australia has a proud history of helping to address the spread of diseases from animals to humans in South-East Asia. We made a significant contribution to the *Stop Trans boundary Animal Disease and Zoonoses* (STANDZ) Initiative through the OIE (AUD12.79 million 2011-2017), which ceased in December 2017. We are also working with the Government of Indonesia through the *Australia-Indonesia Partnership for Emerging Infectious Diseases* (AIPEID) to strengthen human and animal health systems (AUD9.9 million 2015-2018).

Australian Animal Health Laboratory (AAHL)

14. As an international reference laboratory within the Commonwealth Scientific and Industrial Research Organisation (CSIRO), AAHL provides scientific and technical assistance to the South-East Asian, South Asian and Pacific regions for diagnosis, disease investigation, laboratory capacity building and research for a range of emergency animal diseases (including zoonoses) in terrestrial and aquatic species. In its work, AAHL collaborates with a range of national and international partners including the OIE, the FAO, the Australian Centre for International Agricultural Research (ACIAR), and DAWR.

15. Some of AAHL's activities in 2016 and 2017 that contributed to Australia's implementation of Article X in the areas of disease prevention and addressing pandemics and emerging infectious diseases are outlined below:

- Provision of training on biosafety and biosecurity to undergraduates, postgraduates and professional groups through seminars and national and international training courses. AAHL also offers placements for postgraduate students and visiting fellows.
- The AAHL facility is used for the evaluation of new therapeutics/vaccines for emerging and emergency diseases, as pre-clinical trials.
- Provision of in-house biosafety training courses and management of bio-risk. AAHL also delivers capacity building, including on biosafety, through support to laboratories in Asia.
- Research on exotic and emerging terrestrial and aquatic animal health diseases, including zoonotic agents – particularly in the areas of pathogenesis, development of diagnostic assays and reagents and assay validation.

16. AAHL also provides technical assistance through twinning arrangements:

AAHL-National Institute of Animal Health (NIAH, Thailand)

- AAHL partners with NIAH Thailand to enhance and deliver emerging infectious disease (EID) preparedness in the ASEAN region for potential public health and food security threats arising from animal populations. The project is designed to enhance capability in the structured investigation of new and emerging diseases and zoonotic disease outbreaks. It includes technology transfer with supporting quality assurance for known dangerous zoonoses and the development of systems for ongoing consultation between NAIH and AAHL.

AAHL-Regional Animal Health Office No.6 (RAH06, Vietnam)

- The aim of the project is to establish an enhanced capacity for the diagnosis and characterisation of emerging infectious diseases (EID) of pigs in the South-East Asian region at RAHO6. The potential for public health and food security threats arising from animal populations is well understood. Farmed pigs are susceptible to a range of zoonotic infections as well as production-limiting diseases. This project, to be implemented over three years, will enhance the capabilities of RAHO6 for the laboratory diagnosis of emerging diseases in pigs, including zoonotic diseases, providing technology transfer and supporting quality assurance.

AAHL's cooperation with OIE:

- AAHL has participated in a range of OIE ad-hoc groups including Veterinary Biobanking, Biological Threat Reduction and High Throughput Sequencing, Bioinformatics and Computational Genomics as well as OIE regional meetings on the Control of Avian Influenza and the OIE Reference Centres for Asia and the Pacific.
- AAHL has OIE Collaborating Centre designations for New and Emerging Diseases, Laboratory Capacity Building and Diagnostic Test Validation Science in the Asia-Pacific Region.

AAHL cooperation with the WHO:

- Involvement in ad-hoc group on Zoonotic Diseases: Updating the Tripartite Toolkit for national implementation of multi-sectoral approaches for Preparedness, Detection, Assessment, and Response;
- Participation and involvement as facilitator in GOARN (Global Outbreak and Response Network) in the Philippines and Australia in 2017;
- Participation in a WHO Consultative Meeting on High Containment Laboratory Networking in 2017.

AAHL cooperation with the FAO:

- Technical backstopping missions to participating laboratories in Asia to strengthen emergency preparedness for Highly Pathogenic Avian Influenza (HPAI)). The aim was to strengthen laboratory diagnostic capacity and ensure implementation of a standardised protocol for diagnosis for priority animal diseases under an accredited quality assurance system. Missions were undertaken to 10 countries (16 laboratories) in 2016 and 11 countries (16 laboratories) in 2017 in South and South-East Asia;
- Provision of proficiency testing under contract by FAO to 14 countries (19 laboratories) in 2016/2017 for Avian and Swine diseases;
- AAHL worked with FAO Indonesia in 2016 and 2017 to facilitate and implement the Influenza Virus Monitoring (IVM) platform, IVM Online, including the provision of laboratory support and training. The IVM Online platform enables Disease Investigation Centres to track and record Influenza isolates and assess and characterise in real time against reference strains to ensure currency of vaccine seed stocks used in Indonesia's vaccination strategy for Avian Influenza. This work also aligns the development of the IVM Online platform with the wider requirements of Indonesia's Directorate of Animal Health and the requirements of the funding partner, USAID's Emerging Pandemic Threats 2 ("EPT-2") project.

- AAHL sits on the Laboratory Technical Advisory Group (Lab-TAG) established by and supported by FAO. This group consults and advises the Association of Southeast Asian Nations (ASEAN) network laboratories in relation to priority diseases in the region to better enable early diagnosis and preparedness. This activity sets focal point priorities for the ASEAN network to consider annually.

IV. National High Security Quarantine Laboratory

17. Australia's National High Security Quarantine Laboratory (NHSQL) is operated by the Victorian Infectious Diseases Reference Laboratory (VIDRL). The NHSQL is a physical containment level 4 (PC4) facility designed for microorganisms that require the maximum level of containment.

18. The NHSQL provides laboratory space, testing methods and personnel capable of safely handling viruses causing viral haemorrhagic fever (the Ebola, Lassa, Marburg, Crimean-Congo and Rift Valley fever viruses), variola virus and other infections associated with significant morbidity and mortality.

19. The NHSQL has a key role in Australia's preparedness for a national health emergency. It also has the capacity to accept samples from other countries in our region in the event of a large outbreak, and provided assistance during the recent Ebola and Zika outbreaks.

V. Australian Federal Police (AFP)

20. In July 2017, following a request to establish a Biomedical Laboratory unit in Jakarta, AFP Forensics and the Victorian Institute for Forensic Medicine (VIFM) visited Indonesia to provided technical assistance and advice. During the visit, VIFM provided technological advice in relation to establishing a histology and toxicology capability, while AFP provided technical assistance with regard to equipping and constructing a microbiology laboratory. Such a laboratory, when established, will not only be of benefit from a medical and law enforcement perspective but will also provide Indonesia with a better capability of detecting and analysing pathogens relevant to the BWC.

21. AFP continues to promote the exchange of technical information, consistent with the implementation of Article X through participation in technical workshops and conferences in the ASEAN region. In March 2017, AFP participated in a conference and workshop in Singapore that included technical assistance relating to CBRNe issues including:

- Analytical Laboratories in Biological Investigations: How to Ensure Scientific and Political Acceptance;
- Lessons Learned from the experience of the French Military EBOV Laboratories;
- Studying the metabolome of Ricinus Communis for attribution;
- Model of Integrated Bio-surveillance through Strategic Partnership;
- Protecting the Aviation Industry Against CBRNe Threats;
- Medical Countermeasures for CBRNe Public Health Emergencies;
- Technical discussions involving capability of Bio-Threat Panel Film Array for agent detection and identification.

VI. Offers of Assistance

22. As Chair of the Australia Group (AG) we have submitted to the BWC Implementation Support Unit an 'offer of assistance', on behalf of the AG membership, enabling States Parties to request assistance from the AG membership about the implementation of export controls for chemical and biological transfers.

23. In February 2017, the AG hosted a Dialogue and outreach for Latin American countries (Brazil, Chile, Colombia, Ecuador, Paraguay and Uruguay). The Dialogue reaffirmed the AGs commitment to non-proliferation and the security of sensitive materials against any attempts to use them for biological and chemical weapons. The Dialogue highlighted the importance of being able to respond to the dynamic challenges the world faces. Cooperation at global, regional, and sub-regional levels was needed for effective control of dual use materials. Dialogues present an important opportunity for the AG to extend its coordinated export control regime and build support for global counter-proliferation efforts.

24. In addition to the above-mentioned Latin American countries, in 2016-2017 the AG conducted various dialogue and capacity building activities with Hong Kong, Kazakhstan, Malaysia, Myanmar, Serbia, Taiwan, Venezuela and Vietnam. As Chair and an active member of the AG, Australia continues to collaborate with our international partners on export controls.

25. Australia has been a longstanding advocate for universal membership of the BWC. In 2017, we delivered a presentation at a universalisation workshop in the Pacific region, hosted by Fiji.

26. As in previous years, we have continued to support the attendance of delegates from developing countries at BWC-related events through providing voluntary funding to the BWC Sponsorship Program.

VII. Conclusion

27. This report provides a snapshot of some of the collaborative work Australia has undertaken in 2016 and 2017, and complements our previous reports on the implementation of Article X. Technical assistance, education, training and capacity building are also provided by Australian states and territories, research bodies and academic institutions but this important work falls outside the scope of the current report which is limited to activities of the Australian Government.

28. Australia's BWC-related cooperation and assistance makes a strong contribution to public health and disease prevention, surveillance and detection, international cooperation in the biological sciences and improvements in biosafety and biosecurity. Australia's continuing commitment to meeting its Article X obligations, as demonstrated by the examples selected for inclusion in this report, further helps to demonstrate the way enhanced international cooperation and assistance can reinforce the security objectives of the BWC.

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27 July 2018

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Meeting of Experts on Cooperation and Assistance, with a Particular Focus on Strengthening Cooperation and Assistance under Article X
Geneva, 7-8 August 2018
Item 9 of the provisional agenda
Promotion of capacity building, through international cooperation, in biosafety and biosecurity and for detecting, reporting and responding to outbreaks of infectious disease or biological weapons attacks, including in the areas of preparedness, response, and crisis management and mitigation

Promotion of Capacity Building: Sustainable Laboratories for High Consequence Pathogens

Submitted by Canada and the United Kingdom of Great Britain and Northern Ireland

I. Introduction

1. At the BTWC Meeting of Experts in 2012, the UK submitted a Working Paper (under the Standing Agenda Item on Cooperation and Assistance) on the challenges of capacity building for laboratories in resource-limited scenarios.[1] It concluded that, although preliminary steps had been taken to consider such challenges, there was a pressing need to act to implement appropriate solutions on laboratory biosafety and biosecurity around the world. This would require international leadership, coordination and communication and local engagement.

2. Subsequent reports of Meetings of States Parties noted the value of continuing discussion on the challenges associated with the provision of sustainable biosafety and biosecurity capabilities, including in resource-limited settings, and of developing and

[1] 'Challenges to developing international cooperation and assistance on biosafety and biosecurity: matching resources to reality (BWC/MSP/2012/MX/WP.2)

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implementing appropriate, sustainable and effective laboratory safety and security measures through international cooperation and assistance.[2]

3. The Final Declaration of the Eighth Review Conference also reflected this aspect under Article X, agreeing on the value of working together to promote capacity building in relevant fields, including biological risk management, and affirming that building such capacity would directly support the achievement of the objectives of the Convention. This would require that States Parties seeking to build capacity identify their specific needs and requirements and seek partnerships with others, and that States Parties in a position to do so provide assistance and support.

Chatham House 'Sustainable Laboratories for High- Consequence Pathogens Initiative

4. The 2012 UK Working Paper focussed on the report of a Chatham House International Conference on *Safe and Secure Materials: Matching Resources to Reality,* which identified some key issues and potential solutions. The Chatham House Centre on Global Health Security has continued to address these in its initiative on Sustainable Laboratories for High Consequence Pathogens, which it developed jointly with Public Health England and the UK and Canadian Global Partnership programmes.[3] It aims to engage with the opportunities, requirements and practical challenges involved in working with hazardous biological material in resource-limited settings to improve the sustainability of laboratories and address the potential biosafety and biosecurity capability gaps.

5. Following the initial phases, which focussed on gaining consensus for the concept of sustainable biosafety and biosecurity among key countries, international organisations and the international donor community, the emphasis is now on central/national public health laboratories in West Africa. A small number of such facilities will collaborate in a field phase, focussing on the practical, technical, financial and engineering challenges associated with operating biosafety and biosecurity systems in resource-limited settings.

Sustainable Laboratories Roundtable (Abuja, February 2018)

6. With further support from the Weapons Threat Reduction Program at Global Affairs Canada[4], Chatham House is continuing work in this area through a Project that is exploring "Biosafety & Biosecurity Solutions for Resource-limited Environments". The underlying premise of the effort is that while well-equipped biological laboratories play a critical role in the global campaign to prevent, detect and respond to infectious diseases outbreaks, such facilities are often too complex in design and too costly to build, maintain and sustain in countries with the greatest need (e.g. countries in West Africa). In this regard, the Project seeks to move away from the "one size fits all" approach to labs, and to identify new and innovative solutions (e.g. tangible design and operational adjustments) for biological laboratories to be operated in resource-limited environments.

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[2] BWC/MSP/2012/5; BWC/MSP/2013/5

[3] https://www.chathamhouse.org/about/structure/global-health-security/sustainable-laboratories-high-consequence-pathogens-africa

[4] Global Affairs Canada (GAC)'s Weapons Threat Reduction Program implements Canada's contributions to the Global Partnership (GP) Against the Spread of Weapons and Materials of Mass Destruction (www.gpwmd.com). As 2018 Chair of the now 31-country GP, Canada has identified "sustainable biosafety" as a top priority for collective focus.

7. In this context, a roundtable meeting on 'Sustainable Laboratories for High-consequence Pathogens in Africa: Opportunities, Requirements and Challenges', was convened in Abuja, Nigeria on 6-7 February 2018. The roundtable brought together expertise in communicable disease control and public health, animal health, laboratory operations, biosafety and biosecurity, international security and development; almost half of the participants were working in relevant institutions in Africa. The goal was to explore what African countries would find appropriate in terms of building laboratory capacity, what have been the main challenges so far, and what needs to be done to improve the sustainability of laboratories in the region. A key objective was to identify and prioritise action for making progress. This Working Paper highlights some of the key findings of the roundtable discussions. Further information can be found in the Chatham House Centre on Global Health Security Roundtable Summary.[5]

8. In considering the proposal to adopt an approach based on a local risk assessment, whereby laboratories are appropriately and optimally tailored to the local risks and available resources without compromising biosafety and biosecurity, the roundtable identified three phases in laboratory sustainability: prior assessment and planning; design construction and operationalisation; and training for laboratory sustainability. The main issues were characterised as financial, practical and operational challenges.

9. *Prior assessment and planning:* It was suggested that the process should begin with a situation analysis that considers aspects such as:

- the strategic context: the goals and needs of the health system and the requirement for the laboratory taking into account other current and planned national and regional laboratory capacity, and the country's disease profile;
- existing regulations, standards and policies that would apply;
- national financial resources and government support;
- laboratory workforce capacity;
- the capability to transport biological samples and reagents.

A needs assessment would follow, considering the specific requirements for staff, skills, services, infrastructure and interfaces. This would lead to detailed planning before laboratory design and construction began, and the following key tasks were outlined:

- develop a programme of work based on the situation analysis and needs assessment, and plan how it would fit in with existing or planned public health and veterinary laboratories;
- adopt a tailored risk-based approach;
- financial planning;
- identify roles and responsibilities, including the relationship between funding partners and recipients.

Some examples of other issues to be covered included: workforce planning; maintenance, standards and quality assurance; relevant technologies; sample transportation; laboratory twinning opportunities; sustainability; success metrics; and transitioning to self-sufficiency.

10. *Laboratory design:* Participants agreed that one set of specifications for laboratory design would not satisfy all needs, given the differences in local risk assessments and

[5] Available at: https://chathamhouse.soutron.net/Portal/Default/RecordView/Index/172778

contexts (including available financial and technical resources). Some of the important concepts to address were:

- design for expected programme of work and for sustainability;
- simplified overall design and controls;
- low energy demands;
- appropriate biosafety and biosecurity measures for local risk;
- simple equipment and plant that can be maintained locally;
- consider recirculation of conditioned air and necessity of high-grade filtration;
- security fencing.

11. *Training for laboratory sustainability:* Effective training in all the skills needed to establish, operate and maintain a laboratory was acknowledged to be crucial. It was widely agreed that a 'train the trainer' system and the feasibility of establishing a regional training hub should be explored. Metrics to evaluate the effectiveness of training programmes would be of value.

12. Some constructive lessons to address sustainability that emerged in consideration of the three phases were as follows:

- prepare a business case properly and plan for sustainability from the start;
- clearly identify the purpose of the laboratory at the outset;
- take a risk-based approach to laboratory design and specification, based on local risk assessment and appropriate requirements and standards;
- gain high-level buy-in, ongoing engagement and local ownership, which will be important in transition to self-sufficiency;
- formalised skills development is integral to success;
- keep reviewing fitness for purpose, including reassessing the risks and advances in technology, to increase the likelihood of sustainability.

OIE Consultation on Sustainable Laboratories

13. A similar consultation, also funded by Global Affairs Canada, was convened at the World Organisation for Animal Health (OIE) headquarters in Paris on 1-2 March 2018. The OIE "Consultation on Sustainable Laboratory Biosafety and Biosecurity, which engaged animal health experts from Africa, Asia, Europe, the Caribbean and the Americas, reached similar conclusions to the Abuja roundtable on the issue of capacity building in varying resource settings. The report of the consultation highlighted that sustainable laboratories must be fit for purpose and adapted to the local situation and risks. It may not be practical or necessary to apply the same standards in all settings since the local context, including risks and resources, varies; however, sustainability should not be seen as a means of relaxing or reducing standards. Political buy-in, governance of laboratories and empowerment of laboratory staff would be crucial to the sustainability of a laboratory.[6] Follow up work has been initiated to set in motion a transformative agenda to improve the

[6] available at: http://www.oie.int/fileadmin/Home/eng/Our_scientific_expertise/docs/pdf/OIE_sust_labs_report_final.pdf

sustainability of diagnostic laboratories; this will involve engaging a network of potential innovators and producing a cost/benefit analysis that should convince funders that long term investment in laboratory sustainability is worthwhile.[7]

II. Conclusions and next steps

14. The February roundtable in Abuja identified three work streams that could help make progress on establishing sustainable laboratories for high-consequence pathogens in the Africa region (with recognition that results should be applicable for and transferable to other regions as well). Chatham House will continue work on these work streams in 2018-2019, with funding provided by Global Affairs Canada:

- create a laboratory 'prior assessment tool' to guide discussions between partners interested in establishing a new public health laboratory;
- develop a list of core specifications for sustainable laboratories that would be suitable for risk-based tailoring;
- investigate the appetite for, and feasibility of, establishing a regional laboratory skills training hub in Africa.

15. The initiative described in this Working Paper is a good example of how innovative approaches can be adopted when working cooperatively to promote capacity building in relevant fields. It likewise underscores the value of working in partnership with States Parties in need of support to identify their specific requirements and to address long-term needs in a sustainable manner. The Intersessional Programme 2018-20 provides further opportunities to promote effective action on these requirements. MX1[8] will be able to address relevant issues under a number of its topics, including:

- promotion of capacity building, through international cooperation, in biosafety and biosecurity …;
- development of guidelines and procedures for mobilizing resources …;
- facilitation of education, training, exchange and twinning programs …, particularly in developing countries.

16. Improved operation and utilisation of the assistance and cooperation database established by the Seventh Review Conference and renewed by the Eighth Review Conference could also facilitate international collaboration on the establishment of sustainable laboratories for high-consequence pathogens in resource-limited settings.

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[7] see http://www.oie.int/fileadmin/Home/eng/About_us/OIEnews/NL%202018-06-lab%20sustainability.pdf

[8] Meeting of Experts 1: Cooperation and assistance, with a particular focus on strengthening cooperation and assistance under Article X

BWC/MSP/2018/MX.1/WP.3

31 July 2018

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Geneva, 7-8 August 2018
Item 7 of the provisional agenda
Development of guidelines and procedures for mobilizing resources, including financial resources on a voluntary basis to address gaps and needs

Report on BWC Implementation Workshop Rabat, Morocco, 10-11 May 2018

Submitted by the United States of America

Summary

BWC States Parties are exploring and evaluating a range of voluntary transparency initiatives, including a number of variations on the concepts of "peer review" or "implementation review" exercises. To date, however, there has been insufficient recognition of the potential of such initiatives as a means of identifying needs and opportunities for cooperation, collaboration, and assistance. This paper highlights that potential by describing an implementation workshop held as a direct consequence of the United States' participation in Morocco's May 2017 peer review exercise.

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I. Introduction

1. Morocco's National Institute of Hygiene (NIH) organized, in close collaboration with the U.S. State Department, a workshop on implementation of the Biological Weapons Convention (BWC) in Morocco. The event took place from 10 - 11 May 2018 in Rabat, Morocco, and brought together more than 30 representatives from various Moroccan institutions, as well as six international participants (see Annex I).

2. The two-day workshop was carried out in cooperation with the United States and served as a follow-up activity to the peer review exercise held in Morocco in May 2017. The latter exercise was focused on implementation of the BWC in Morocco, and included around 40 national representatives of Morocco, along with 16 experts from ten other BWC States Parties, including the United States. These participants shared information and best practices about BWC implementation, and the exercise facilitated contacts among them. Among the benefits of the peer review exercise was that the United States become more aware of Moroccan needs in this area and of potential opportunities for collaboration. This led to the workshop that is the subject of this report.

3. In line with the main recommendations identified in the exercise report (see BWC/MSP/2017/WP.1), the workshop focused on the following four key issues:

- A legislation gap analysis to identify the need for further BWC implementing legislation, including consideration of the status of relevant draft legislation;
- Establishment of a national list of pathogens and toxins;
- Conduct of a BWC awareness raising campaign; and
- Establishment of an inter-ministerial body in charge of BWC implementation.

4. This report provides a brief summary of the workshop proceedings, organized according to the agenda jointly developed by the organizers (see Annex II).

II. Workshop Proceedings

Welcome Remarks and Workshop Objectives

5. In the opening session, representatives of the co-organizers made brief opening remarks. Dr. Mohamed Rhajaoui, Director of the Moroccan Institute of National Hygiene outlined the workshop's main objective, which was to develop a roadmap of actions stemming from the lessons identified in the 2017 peer review exercise. Ms. Andreea Paulopol of the U.S. Department of State expressed her appreciation to the hosts for the joint collaboration on the BWC and the decision to carry out the workshop.

State of play of the BWC in Morocco, RNBC Action Plan, Status implementation of the 2017 Peer Review Exercise

6. In the first session, representatives from the Institute of Hygiene provided an overview of the state of play of the BWC in Morocco. They shared detailed information on the existing national legislation including the regulatory framework currently in place. Furthermore, speakers made a brief recap of the 2017 peer review exercise held in Morocco, which brought together around 40 representatives from various governmental and non-governmental institutions in Morocco, as well as 16 international experts from ten States Parties and the BWC Implementation Support Unit. The presenters expressed their appreciation to the European Union (EU), Belgium, the Netherlands and France for the support provided in 2017 and reminded the audience of the specific Moroccan exercise objectives:

- To present Moroccan efforts in controlling the proliferation of pathogens;

- To allow the international experts to visit some of the most important Moroccan laboratories in order to picture the way of pathogens management in Morocco; and
- To obtain recommendations from the international experts to enhance BWC implementation.

7. Furthermore, they briefly informed about the exercise proceedings, which covered the conduct of a one-day seminar followed by two days of visits to five different institutions:

- National Institute for Safety of Food Products, Rabat;
- Animal Vaccine Production facility (BIOPHARMA), Rabat;
- Moulay Youssef Hospital, Casablanca;
- National Institute of Hygiene, Rabat; and
- Institut Pasteur du Maroc, Casablanca.

8. The first session concluded with a summary of each of the main recommendations of the peer review exercise.

National implementation of the BWC, gap analysis on legislation

9. Dr. Sonia Drobysz, Acting Programme Director for National Implementation at the Verification Research, Training and Information Centre (VERTIC) focused in her presentation on national implementation measures required by the BWC. She first highlighted relevant Convention provisions, most notably Article III and IV and additional agreements reached by Review Conferences. She elaborated on specific measures that States Parties need to adopt in order to implement the Convention. Furthermore, she informed about different approaches taken by States Parties on the enactment of domestic legislation for the BWC, such as 'stand-alone' laws on specific BWC-related issues, laws covering all weapons of mass destruction, and the implementation of respective Convention obligations through several laws and regulations.

10. Dr. Drobysz then presented the outcome of a legislative study done by VERTIC in 2013 on Moroccan legislation based on information available in the public domain. She noted that even though certain national laws and regulations could be relevant to some aspects of BWC implementation, there was no specific legislation in force to address illegal activities with biological and toxin weapons and to control peaceful activities with biological agents and toxins in Morocco, including legislation on biosafety and biosecurity. Dr. Drobysz concluded her presentation by stressing the benefits of national implementation and informing about the work undertaken by VERTIC. In this context, she shared information about specific tools developed by VERTIC, such as the BWC legislation database, sample legislation, regulatory guidelines, and other tools for implementing the BWC.

11. In her second presentation, Dr. Drobysz focused on the role and functions of a national authority for the BWC. In accordance with the recommendation of the Sixth Review Conference, States Parties are encouraged to designate a national focal point for coordinating national implementation of the Convention and communicating with other States Parties and relevant international organizations. Furthermore, she provided information on the potential structure and composition of an inter-ministerial body.

Development of a high consequence pathogens and toxins list

12. Ms. Natalie DeGraaf of the Global Program, Division of Laboratory Systems at the U.S. Centers for Disease Control and Prevention (CDC) spoke about the development of a high consequence pathogens and toxins list. She presented the main components of a national biosafety and biosecurity system, pointed out the different approaches that States

Parties have taken to create a national oversight system, and presented select national examples.

13. In her first presentation, Ms. DeGraaf emphasized critical decisions that need to be taken when creating an oversight system, such as determining the type of laboratories and other activities that are to be monitored and the specific oversight options to be chosen. Approaches vary and range from merely passive information collection methods to active ones that also include national on-site inspection components to verify the information provided. Ms. DeGraaf also informed about different national or international standards that could be used in the development of a biorisk oversight programme. In this context, she pointed out specific challenges to developing and implementing national oversight programmes and means to overcome them. She concluded her presentation by emphasizing that there is no 'one-size fits all' approach and that each state has to develop its own unique national system.

14. Ms. DeGraaf's second presentation focused on different types of high consequence pathogens and toxins lists, with a view to facilitating discussions in the subsequent working group on the same issue. She presented models adopted by different countries in which the number of agents vary between 20 and more than 250 pathogens and toxins. Ms. DeGraaf also highlighted a number of criteria for inclusion/exclusion and discussed the approach of using a scoring system in order to facilitate the process of deciding on including or excluding individual pathogens or toxins.

National inventory of dangerous pathogens

15. In the afternoon session of the first day, Ms. Sabrina Brizee of the Dutch National Institute for Public Health and the Environment (RIVM) presented the Dutch national inventory of dangerous pathogens. She explained the Dutch national approach towards biosafety and biosecurity and informed about tools such as the 'biosecurity self-scan toolkit' and 'vulnerability scan' that were developed by RIVM and are freely available on its website. The national inventory is a centralized, electronic database, with dedicated software, providing a comprehensive overview of all laboratories handling dangerous pathogens at the national level, and should not be confused with an institutional-level inventory. A national inventory can serve as a tool for policy development and biopreparedness and help countries to comply with international regulations such as the BWC.

16. Such a system is still not in place in many countries but is recommended in a large number of World Health Organization Joint External Evaluation (WHO JEE) reports. RIVM has relevant experience and the dedicated software, and intends to develop an autonomous instrument to help other countries independently set up their own inventories of dangerous pathogens. Ms. Brizee described a project in which RIVM is working on establishing a national inventory in the Republic of Uganda, an effort that was positively acknowledged by the WHO in its JEE in Uganda as an indicator for biosafety and biosecurity. Within the framework of the Global Partnership Program, RIVM is currently reaching out to other countries in East Africa, such as Tanzania and Kenya, to facilitate the implementation of such a database.

17. Ms. Brizee then went on to present the process of implementing a national inventory of dangerous pathogens, with four key steps: 1. identify government and other stakeholders to implement an inventory; 2. mandate to contact and map relevant laboratories; 3. data collection, management and maintenance of the database; and 4. update the relevant ministries about the outcome of the database, which subsequently can be used for developing national biosafety/biosecurity policies.

BWC awareness raising

18. Mr. Scott Davis, Deputy Director of the Biological Policy Staff, Bureau of International Security & Nonproliferation of the U.S. Department of State presented on BWC awareness raising in the United States. Mr. Davis elaborated on awareness-raising measures that his country has put in place with regard to various aspects of BWC implementation – export controls, biorisk management, and the oversight of science. He particularly noted the growing concern about dual-use research of concern (DURC) and the consequent need to raise awareness about this problem, highlighting a number of government policies that the United States has enacted for this purpose and emphasizing that the U.S. government draws for this purpose on expertise from the scientific community.

19. Mr. Davis stressed the importance of creating a culture of responsibility and shared information on specific U.S. approaches that include both governmental and non-governmental efforts. He pointed out the specific communities that U.S. outreach and education efforts target, including industry, academia, other research, public health, first responders, and the amateur biology community. This includes partnerships developed by the Federal Bureau of Investigation to garner assistance in preventing, detecting and responding to incidents of misuse.

III. Recommendations and Next Steps Identified by the Working Group Discussions

20. After these presentations, which were aimed at familiarizing workshop participants with national best practices and examples in the areas of priority for the workshop, experts regrouped into two smaller working groups that were held in parallel. These groups had the main objective of developing concrete recommendations and identifying next steps to strengthen BWC implementation in Morocco. The participants identified the following main recommendations, including next steps.

Legislation gap analysis and draft legislation

- Participants strongly recommended completing a legislation gap analysis, building upon the work done by VERTIC in 2013. The analysis should take stock of existing legislation and draft bills such as those on pathogens and toxins, public health, transport of infectious substances, and controls on exports of dual-use items.
- Furthermore, participants recommended the drafting of detailed legislation on biosafety and biosecurity, on the basis of the existing draft bill on pathogens and toxins. In this context, some experts also suggested the value of analyzing relevant legislation in place in other States Parties, such as France or Belgium.
- Experts exchanged some initial views regarding the identification of a potential leading entity for the process.

List of high consequence pathogens and toxins for Morocco

- Workshop participants developed a first draft list of human pathogens, human/animal pathogens, and toxins. Experts agreed to use the list as a basis for further consideration among the various national stakeholders.
- It was suggested that the first consolidated version of the list will be shared with CDC for feedback.

Inter-ministerial Committee

- Participants agreed that one of the main workshop conclusions was the need for a multidisciplinary approach to implement the Convention provisions.
- Representatives discussed various options to establish an inter-ministerial committee, including an informal approach that builds upon existing arrangements, as well as the establishment of a formal structure regulated through a legal decree.
- Experts noted the potential benefit of looking into the domestic implementation approach taken for the Chemical Weapons Convention and adjusting it to apply for BWC requirements.
- Participants also emphasized the importance of convening meetings like this implementation workshop on a regular basis. In this context, they also noted the benefits of the peer review workshop in 2017, as it brought together various national stakeholders involved in the implementation of the Convention.
- It was suggested that Moroccan authorities designate the National Institute of Hygiene as a national focal point to coordinate activities related to BWC implementation.

BWC awareness raising campaign

- Experts underlined the criticality of a BWC awareness raising campaign and considered those persons working with and transporting pathogens as a key target group.
- Participants noted the valuable work done by Moroccan NGOs, such as the Moroccan Biosafety Association (MOBSA/AMABIOS) and the Association Marocaine de Biosécurité (AMBS), which conduct "caravans" and other outreach activities in relevant institutions and venues, such as universities.
- Representatives took note of the fact that Morocco has gained considerable experience through recent awareness raising campaigns conducted in the context of major disease outbreaks.
- While arguments in favor of approaches that are both centralized (e.g., directed by the government) and decentralized (e.g., with initiative taken by a wide range of entities, such as universities, NGOs, and industry) were discussed, experts underlined the importance of not excluding either approach.
- Some participants also saw a potentially important role for an inter-ministerial body in ensuring a coordinated, cross-sectoral awareness raising campaign.
- Participants suggested a high-level conference including key policy makers and international experts as an option to draw further attention to the BWC's requirements.

IV. Conclusions

21. Participants noted the great benefit of the two-day workshop and expressed their appreciation to the National Institute of Hygiene of Morocco and the U.S. Department of State as the main organizers of the event. Many said that the workshop objectives were met and that the proceedings were carried out in a very open, all-inclusive, and constructive manner. While work remains to be done, participants noted that another important step had been taken by following up on the lessons identified in the peer review exercise in 2017. Participants expressed their hope for a continued collaboration among Moroccan stakeholders and with international experts in the future in order to facilitate the full and

effective implementation of the BWC in Morocco. For its part, the United States concluded that such exercises are valuable, both as a means to strengthen implementation in specific States Parties and as an example for other Parties; that direct cooperation between and among Parties is an important way to strengthen the BWC; and that we can continue this process with further assistance to Morocco in filling gaps in its legislation implementing the Convention.

Annex I

Participating Institutions in the BWC Implementation Workshop

1. The following governmental institutions and non-governmental entities from Morocco participated in the event:

- Ministry of Health: National Institute of Hygiene; Hospital Directorate; Pharmacy and Drug Control Directorate; Directorate of Epidemiology and Disease Control; Direction de la Règlementation et du Contentieux;
- Ministry of Foreign Affairs and International Cooperation;
- Ministry of Interior: Direction Générale de la Sûreté Nationale, General Directorate for Civil Protection;
- Ministry of Foreign Trade;
- Administration de la Défense Nationale
- Forces Armées Royales;
- Gendarmerie Royale;
- Ministry of Higher Education and Scientific Research: Directorate of Scientific Research, National Center for Scientific and Technical Research (CNRST);
- Ministry of Agriculture and Maritime Fishing: National Office for the Safety of Food Products;
- Veterinary vaccine production company (BIOPHARMA); and
- Moroccan Biosafety Associations: MOBSA and AMBS.

2. Representatives from the following international institutions attended the event:

- United States Department of State;
- Centers for Disease Control and Prevention, United States;
- National Institute for Public Health and the Environment, The Netherlands;
- Verification Research, Training and Information Centre; and
- Implementation Support Unit for the Biological Weapons Convention.

Annex II
Workshop Agenda

10 May 2018

8:45-09:00	Welcome Remarks and Workshop Objectives Dr. Mohamed Rhajaoui: Director of the INH, Morocco Ms. Andreea Paulopol, U.S. Department of State
9:00-10:30	State of play of the BWC in Morocco (Morocco), led by INH RNBC Action Plan (Morocco) Status implementation of the recommendations of the 2017 Peer-review exercise (Morocco), led by INH Legislation gap analysis Draft Legislation National pathogens list BWC Awareness raising campaign Inter-ministerial body
10:30-10:45	Coffee break
10:45-12:30	VERTIC and CDC presentations Implementing measures for the BWC and approaches to national implementation VERTIC's survey of Morocco's implementing legislation for the BWC VERTIC legislative drafting assistance and tools CDC pathogen list drafting and implementation
12:30-13:30	Lunch
13:30-17:00	RIVM and U.S. Department of State Presentations Working Groups Discussion on next steps to strengthen BWC implementation Legislation Gap analysis and Draft Legislation, led by VERTIC, CDC, RIVM and DRC Ministry of Health BWC Awareness raising campaign, led by U.S. Department of State and ONSSA

11 May 2018

09:00-12:00	Working Groups Discussion (2 working groups) National pathogens list, led by CDC and INH Inter-ministerial body, led by VERTIC and MAECI Morocco
12:00-13:00	Lunch
13:00-15:00	Report from Working Groups
15:00-17:00	Discussion on next steps and action plan

Meeting of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction

31 July 2018

English only

2018 Meeting
Geneva, 4-7 December 2018

Meeting of Experts on Cooperation and Assistance, with a Particular Focus on Strengthening Cooperation and Assistance under Article X
Geneva, 7-8 August 2018
Item 9 of the provisional agenda
Promotion of capacity building, through international cooperation, in biosafety and biosecurity and for detecting, reporting and responding to outbreaks of infectious disease or biological weapons attacks, including in the areas of preparedness, response, and crisis management and mitigation

Outcome of the International Workshop on Cooperation and Assistance under Article X

Submitted by Norway

1. On 22 June 2018, the government of Norway and the Biological Weapons Convention Implementation Support Unit co-organized a workshop entitled "International Workshop on Cooperation and Assistance under Article X of the Biological Weapons Convention". Held in Geneva, Switzerland, the workshop convened 62 participants from 34 States Parties, five regional or international organizations, and six non-governmental organizations or academic institutions. The government of Norway provided funding for the venue as well as travel and accommodation for sponsored speakers.

2. This workshop enabled positive and constructive discussions in advance of the 2018 Meetings of Experts 1, on Cooperation and Assistance, with a Particular Focus on Strengthening Cooperation and Assistance under Article X, which will take place on 7-8 August 2018 in Geneva.

3. Norway believes that this workshop was useful in laying the groundwork for a positive and constructive discussion at the Meeting of Experts 1, including possible outcome. The two co-organizers of this workshop prepared a Workshop Summary, which is annexed to this working paper.

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Annex I

International Workshop On Cooperation and Assistance under Article X of the Biological Weapons Convention

Workshop Summary

I. Introduction

1. The government of Norway and the Biological Weapons Convention Implementation Support Unit (BWC ISU) co-organized a workshop entitled "International Workshop on Cooperation and Assistance under Article X of the Biological Weapons Convention" in Geneva, Switzerland on 22 June 2018. Over 60 participants were registered for the event, representing States Parties, international organizations, non-governmental organizations and academic institutions. Workshop discussions were divided into five working sessions. Selected experts were invited to give a presentation on the subject matter of each session, followed by a free exchange of views under the guidance of the moderator. The workshop provided an opportunity for exchanging views and discussing ideas and proposals related to Cooperation and Assistance under Article X of the Convention in advance of the 2018 Meetings of Experts, more specifically the Meeting of Experts 1 (MX 1).

Session I: Assistance and cooperation under the BWC

2. In the opening session, Ms. Trude Skjerve Johnson, Senior Adviser, Norwegian Ministry of Foreign Affairs, highlighted the BWC as one core pillar of disarmament and non-proliferation of weapons of mass destruction. Effective implementation of the Convention, including art. X, is therefore key. Norway has long emphasized that a well-functioning public health system is the best defense against any possible outbreak of disease, intentional or not. State Parties may need assistance in strengthening national capacities in fulfilling their international commitment and exploring effective ways of providing such assistance and cooperation remains a priority, stressed Ms. Skjerve.

3. Working session, I was moderated by Ms. Hana Cervenka, First Secretary, Permanent Mission of Norway in Geneva.

"The evolution of Article X of the BWC", by Mr. James Revill, Research Fellow, University of Sussex.

4. The presentation gave a historical overview of the development and implementation of Article X of the BWC. It argued that Article X received little attention in the early 1970s, but has since then become a more divisive issue with many states maintaining a principled stand on the importance of Article X.

5. The presentation argued that the BWC was not going to progress in the biotech century without more attention to international cooperation. However, it is also necessary to recognize that many cooperative activities are also taking place outside the BWC, including ones where the private sector plays an important role. Taking into account the recipient states' infrastructure and capacity to absorb knowledge and equipment, as well as finding reasonably inexpensive ways of implementing art. X would also be important.

6. Four alternative ideas for moving Article X forward were presented as food for thought:

(a) Article X related reports and report analysis;

(b) Mandating and resourcing the ISU to look at article X, including through the appointment of an international cooperation officer;

(c) Agreement to hold regional science and technology (S&T) dialogues focused on S&T responses to regional BWC-related issues and local problems;

(d) An open-ended working group to look at international cooperation.

"The Biological Weapons Convention and Article X implementation: An introductory overview" by Mr. Daniel Feakes, Chief of the BWC Implementation Support Unit.

7. Mr. Feakes presented the BWC Assistance and Cooperation Database, which was mandated by the Seventh Review Conference to facilitate requests for and offers of exchange of assistance and cooperation among States Parties. The BWC Sponsorship Programme, established by the Seventh Review Conference to support and increase the participation of developing States Parties in the meetings of the Convention is another important mechanism that might help spur cooperation and assistance.

Discussion

8. Many participants expressed their hopes that this workshop could help delegates at the forthcoming MX1 identify issues where common understanding, effective action and possible outcomes could be considered and developed.

9. Regarding the BWC Sponsorship Programme, participants highlighted the role of the programme in empowering networks of experts and discussed the idea of the ISU providing an analysis on experts that have been sponsored since the Seventh Review Conference in order to facilitate this.

10. Participants also suggested that BWC States Parties could draw lessons learned on cooperation and assistance from other regimes and sectors, such as the OPCW, the OECD peer review development assistance mechanisms, the IAP panel etc.

Session II: Building capacities at the national, regional and global level

11. Working session II was moderated by Ms. Ngoc Phuong van der Blij, Political Affairs Officer, BWC ISU.

"Harnessing frontier technologies for sustainable development" by Mr. Angel González Sanz, Chief, Science, Technology and ICT Branch, Division on Technology and Logistics, UNCTAD.

12. Mr. Gonzáles Sanz presented the findings in an UNCTAD's 2018 Technology and Innovation Report[1], which finds that harnessing frontier technologies could be transformative in achieving the Sustainable Development Goals (SDGs). Such transformation requires addressing persistent technological and innovation gaps among developed and developing countries.

[1] http://unctad.org/en/PublicationsLibrary/tir2018_en.pdf

13. Several frontier technologies show the greatest potential to enable the achievement of the SDGs. Big data analysis can help to address critical global issues, create scientific breakthroughs, advance human health and improve decision-making. The Internet of Things allows connected objects and machines to be monitored and managed. These technologies have applications in healthcare, agriculture, energy and water management and in monitoring development indicators to assess progress towards the SDGs. Artificial intelligence, particularly combined with robotics, could transform production and business, especially in manufacturing. So too could 3D printing, which can allow faster and cheaper low-volume production and rapid iterative prototyping of new products. Biotechnology allows gene editing, making possible the personalized treatments and genetic modification of plants and animals. Nanotechnology is used in water purification, battery storage, precise management of agrochemicals, and in the delivery of medication. Renewable energy technologies could provide electricity in rural areas far from the grid systems, while drones could revolutionize the delivery of supplies and replace humans in dangerous tasks. Small-scale satellites will soon be affordable for more developing countries, businesses and universities.

14. Achieving the ambitious 2030 Agenda for Sustainable Development requires the full use of all available tools. Given the central role of innovation in the structural economic transformation, technology will be indispensable for sustainable development. The changes that frontier technology may introduce in human activity could create unprecedented divides and should be accompanies by an ethical imperative to ensure that no one is left behind. The LDCs, in particular, should receive international support to build the capabilities and create the enabling environment necessary for frontier technologies to deliver on their promise.

Role and Importance of education and awareness in the implementation of the Biological Weapons Convention: Moroccan Experience" by Dr. Fatima Lamchouri, Professor at the Polydisciplinary Faculty of Taza, Sidi Mohamed Ben Abdellah University of Fez, Morocco

15. The rapid expansion and application of scientific knowledge owes much to a research culture in which knowledge and biological materials are shared by scientists. As the use of hazardous biological and chemical agents becomes more common in laboratories, hospitals or the pharmaceutical industry, biological research may inadvertently contribute to the development of new weapons. The potential misuse of research results (called "dual-use") is a danger to international security. This raises important questions about the responsibilities of scientists, research institutions, the scientific community, publishers and policy makers. Responsible actors at each of these levels should aim to promote the progress of science to the extent that these advances benefit humanity; but they should aim to avoid results where developments end up causing more harm than good. They should also organize and conduct educational and awareness-raising activities, particularly on responsible uses of science. in relation to Article X of the Convention.

16. It is also necessary to educate and sensitize the academic and scientific community in State Parties on the provisions of the BWC. This could also constitute components of the prevention and management of biological risks and threats. Practical means could include introduction into university curricula modules on biosafety, biosecurity, bioethics, dual use in the life sciences, responsible science, as well as the organization of conferences, workshops, thematic schools for the benefit of students, teachers and administrative and technical staff of laboratories of public or private establishments that handle biological material.

17. The Moroccan experience in this field may be relevant to other countries in development. The introduction of biosafety training is a component of the prevention and management of risks in laboratories. This helps to define a framework in which biohazardous substances can be managed responsibly, while continuing to provide service,

education and research, and to implement the Convention. Presentations on bioethics to students also may help solve the ethical problems raised by the dilemma of dual use in the life sciences. The ultimate goal is to develop in the students a critical spirit allowing them to identify the ethical issues of scientific and technological progress in the field of life sciences, in order to integrate this ethical reflection into their professional practice.

18. The presentation ended with ideas of having the ISU trained in Education and Outreach practices, as part of a "train-the trainer" initiative.

"Developing human resources in biological sciences and technology related to implementation of the BWC." By Dr. Jean Pascal Zanders, Chairman, Advisory Board on Education and Outreach, OPCW.

19. The Advisory Board on Education and Outreach (ABEO) started functioning as a subsidiary body of the Organisation for the Prohibition of Chemical Weapons (OPCW) in 2016. It published its substantive report on how education and outreach may assist the OPCW in February 2018. Close interaction with stakeholders, including industry, the scientific community, academia, civil society and the media, is seen as important to engage these constituencies in supporting and promoting the norm against chemical weapons. Recommendations by the ABEO focus on the education and outreach roles of staff members of the OPCW Technical Secretariat and States Parties to the Chemical Weapons Convention (CWC) and their National Authority in particular. The National Authority, should engage with local stakeholder communities to advance national implementation of the CWC and make stakeholders aware of their individual and collective responsibilities under the treaty on the local level.

20. Translated to the BWC, education and outreach strategies (especially, active learning) could be deployed to make officials in capitals aware of the importance of implementation of the treaty. They should be well informed on how to engage local stakeholders to facilitate the various implementation and reporting obligations. with respect to Article X, education and outreach could help various stakeholders to express their concrete needs, which officials could then translate into concrete requests for international assistance and cooperation, including technology transfers, through the BWC. Such activities could improve communication about national needs between capitals and their delegations in Geneva. Similarly, education and outreach on the local level can help officials in capitals and national stakeholder communities to become part of international networks, as well as raise awareness among those communities of dual-use risks, regulations, norms and (international) obligations.

21. The presentation ended with a recommendation to include offers for education and outreach in the Article X database and ideas for the staff members of the Implementation Support Unit to deploy active learning strategies during activities they organize or participate in.

Discussion

22. During this session, participants were interested in the costs related to the creation and establishment of the ABEO Information about such costs are available on the OPCW website[2].

23. Participants also highlighted the importance of National Contact Points (NCPs), in supporting Education and Outreach activities. Connecting NCPs with relevant national and international networks is very important, according to several participants.

[2] https://www.opcw.org/about-opcw/subsidiary-bodies/advisory-board-on-education-and-outreach/

Session III: International collaboration at the health-security interface

24. Session III was moderated by Ms. Trude Skjerve Johnson, Senior Adviser, Ministry of Foreign Affairs, Norway.

"Promotion of capacity building, through international cooperation, in biosafety and biosecurity to enhance preparedness and response capacities to outbreaks of infectious disease or biological weapons attacks" by Dr. Arne Broch Brantsaeter, Senior Consultant, Norwegian National Unit for CBRNE Medicine, Oslo University Hospital, and Dr. Anna Agnieszka, Norwegian Defence Research Establishment

25. The presentation highlighted biosecurity, biosafety and infection prevention and control measures as important components of medical preparedness and response to outbreaks of infectious diseases. Global health security depends on international cooperation in all these fields. Project 54, funded by the European Union CBRN Risk Mitigation Centres of Excellence Initiative (EU CBRN CoE), is aiming to strengthen the institutional capacity, in particular medical systems, to manage and mitigate the consequences of CBRN incidents in Lebanon, Jordan and Iraq. Establishing National Training Centres in these countries will enable self-sustainable national training for medical and paramedical responders involved in CBRN responses, whether the incident be caused by natural, accidental or intentional release of agents. The Project 54 Consortium consists of a number of organizations with many years of expertise in the preparation and delivery of CBRN training courses and guidance, including Public Health England, Royal United Service Institute, European CBRN Center Sweden, Norwegian Institute of Public Health, Norwegian Defence Research Establishment, Norwegian National Unit for CBRNE Medicine, and Swedish Defence Research Agency (FOI).

26. The speakers noted that Ebola outbreak in West-Africa in 2014-2016 served as a clear reminder of the need for international response and cooperation. Health care workers were infected both in West Africa, in Europe and the US. Appropriate design of high-level isolation units and use of personal protective equipment have been topics of discussion in several international meetings and have resulted in numerous scientific publications and guidance documents. Much has also been learned about medical management of Ebola virus disease, and the establishment of the WHO Emerging Diseases Clinical Assessment and Response Network (EDCARN) is one example of lasting international cooperation in the field of highly infectious diseases. Nordic and European networks for highly-infectious diseases and emerging biological risks have also been formed.

"Building innovative partnerships between public, private, philanthropic and civil organisations to enhance epidemic preparedness" by Ms. Gro Anett Nicolaysen, Resource Mobilisation Lead, Coalition for Epidemic Preparedness Innocation (CEPI)

27. CEPI has the mission to stimulate, finance and coordinate vaccine development and rapid response platforms for future epidemics that are not prioritized through regular market initiatives. The aim is to enhance preparedness, accelerate response, ensure market predictability. It is a coalition that brings together public, private sector, philanthropic, and civil society to tackle emerging infectious diseases. The coalition's activities are coordinated by a Secretariat, headquartered in Norway with support by the Norwegian government, and close support from the other founders - Wellcome Trust, Government of India, Bill & Melinda Gates Foundation, and the World Economic Forum.

28. The presentation highlighted that epidemics are a global challenge that we have yet to outsmart. The challenges are described as follow:

- Dense cities, easy travel and ecological change mean they spread faster and further than ever before. Epidemics don't respect borders or nations

- They cause loss of lives, businesses to close, economies to struggle, and billions of USD are spent trying to contain them.
- Over 10 years the global cost of epidemics could amount to USD 600 billion. Hence, emphasis on preparedness is key
- Vaccines can protect us, however, it is necessary to do more in advance of an outbreak to have them ready in time

"An Innovative Partnership for Pandemic Preparedness" by Ms. Anne Huvos, Manager, World Health Organization (WHO) PIP Framework Secretariat

29. The presentation focused on the Pandemic Influenza Preparedness (PIP) Framework[3], which is an innovative public health instrument that was negotiated by WHO Member States and approved by the 64th World Health Assembly in 2011. It aims to increase public health security by addressing three important issues:

- The rapid, systematic and timely sharing by WHO Member States, of influenza viruses with pandemic potential (IVPP) with the WHO-coordinated Global Influenza Surveillance and Response System (GISRS) – a network of 153 public health laboratories specialised in influenza – so that GISRS may, inter alia, carry out risk assessment and vaccine virus development;
- Strengthening pandemic preparedness capacities, notably surveillance and laboratory skills, in countries where they are weak, so that when a new influenza virus emerges it can rapidly be detected, characterized and shared in order to start the process to develop a vaccine; and
- Establishing mechanisms to ensure greater equity of access to pandemic vaccines and other pandemic influenza response products by all countries regardless of economic or development status.

30. To date, WHO has signed legally binding contracts securing its future access to over 400M doses of pandemic vaccine, 10M antiviral treatment courses, 250 thousand diagnostic kits and 25M syringes. As well, WHO has collected over US$ 142M from manufacturers through the Partnership Contribution. These funds have enabled WHO to support many different types of capacity building activities in 72 countries and to establish a response fund that will be used at the time of the next pandemic to support response activities.

Discussion

31. During this session, participants noted the importance of preparedness as a key element that should be emphasized in national strategy against global epidemics.

Session IV: Challenges and opportunities for international cooperation and assistance

32. Session IV was moderated by Mr. Hermann Alex Lampalzer, Political Affairs Officer, BWC ISU.

[3] For more information on the PIP Framev.ork, visit: http://www.who.int/influenza/pip/en/

"The International Centre for Genetic Engineering and Biotechnology: at the intersection between research and cooperation" by Dr. Alessandro Marcello, Group Leader, Molecular Virology, ICGEB.[4]

33. The International Centre for Genetic Engineering and Biotechnology[5] (ICGEB) is an autonomous intergovernmental organization that counts over 60 Member States and is part of the United Nations Common System. The ICGEB Mandate is to provide a Centre of excellence for research, training and technology transfer to industry in the field of biotechnology and to promote sustainable global development. The ICGEB provides a scientific and educational environment of the highest standard and conducts innovative research in life sciences for the benefit of its Members. It strengthens the research capability of its Members through training, programme funding and advisory services and offers a comprehensive approach to promoting biotechnology internationally. The ICGEB is dedicated to advanced research and training in molecular biology and biotechnology and holds out the prospect of advancing knowledge and applying the latest techniques in the fields of: biomedicine, crop improvement, environmental protection/remediation, energy, biopharmaceuticals and bio-pesticide production. With Components in Trieste-Italy, New Delhi-India and Cape Town-South Africa, the Centre forms an interactive network with affiliated centers in Member States.

"Biotechnology in developing countries" by Prof. Li Yin, Deputy Director General of the international cooperation department of the Chinese Academy of Sciences.

34. Biotechnology is becoming a major impetus behind economic recovery and growth, as well as a point of global competition. This presentation systematically analyzed the biotechnology development status of 141 developing countries from the data obtained from scientific publications and patents documented between 2005-2015. To make the analysis thorough and valuable, 32 specialized disciplinary subjects to subdivide the three main areas of biotechnology, namely medical biotechnology, agricultural biotechnology, and industrial biotechnology were used. The analysis indicated that infectious diseases are still the major threat for developing countries.

35. The second part of this presentation summarized the contribution of the Chinese government and the Chinese Academy of Sciences to the prevention and control of infectious disease. This includes China's contribution in the 2014 West Africa Ebola outbreak, training PhD students and specialized personnel for developing countries, organizing biosafety training workshop etc. To best utilize the positive aspect of biotechnology, the presentation proposed that a biological scientist code of conduct should be considered under BWC.

Session V: Considerations for the way ahead

36. The session was moderated by Mr. Daniel Feakes, Chief BWC ISU.

Ambassador Maria Teresa Almojuela of the Philippines, as Chairperson of the Meeting of Experts 1, shared her vision and considerations for the forthcoming Meeting of Experts on 7 - 8 August 2018.

37. The Chair noted the importance of concrete proposals and encouraged states to submit working papers and organize side events for MX1. She highlighted the need to see

[4] The presentation was delivered via skype due to an unforeseen flight cancellation.

[5] www.icgeb.org

the intersessional programme (ISP) 2018-2019 as a continuum: the discussions in MX 1 will be taken forward in the build up to the 2020 Review Conference.

38. The Chair sees the UN Secretary General's disarmament agenda "Securing our Common Future" as a useful reference for MX1 and highlighted the following elements:

- Institutionalization: the BWC is the least institutionalized among disarmament instruments. Institutionalization of the BWC, particularly Article X implementation, requires robust structures for cooperation, sustainability and predictability, and anchoring the engagement for developing states parties.
- Disarmament and development: The Secretary General's disarmament agenda calls for a strong correlation between disarmament and development. The implementation of Article X provides the opening for States Parties to contribute to the 2030 agenda. The potential for biotechnology to address climate change, pollution, outbreak of diseases, food security challenges etc. is limitless. The BWC States Parties should identify practical activities that are scalable, within BWC mandate, and not repeat what is already being done elsewhere.
- Partnerships: this is a major theme of the UN SG disarmament paper. Under MX 1, there are three topics where discussions on partnerships will be pursued – with and among international organizations, academia and industry. As cited in the example of the CWC education and outreach program, outreach activities are crucial in building a community of experts, scientists and professionals who understand their stakes in the BWC regime, and to develop enabling platforms for cooperation.
- Regional cooperation: one guidance in the disarmament agenda is to reinforce existing cooperation at the global level by aligning them clearly and strongly with regional cooperation mechanisms. Regional mechanisms are often more dynamic, rooted and robust. Sometimes they are more effective in improving operational national/global capabilities; and in establishing self-sustaining arrangements. Moreover, regional arrangements take into account the different contexts, risks and challenges that regions face.

39. In her final remarks, Ambassador Almojuela highlighted the following points:

- Some proposals to be presented at the MX 1 may be in their exploratory phase and will take some time to discuss, while others may be riper and ready for development; the UNSG paper cited ripeness of opportunities, particularly in global health.
- It is important to achieve balance in the progress of implementation of BWC articles, and that outcomes from the MXs reflect this balance

40. At the end of the intersessional process, States Parties should have clear and well-developed deliverables for consideration in the 9th Review Conference that all States Parties can support.

Annex II

Programme

08:30- 09:00 Workshop registration

Session I: Assistance and cooperation under the BWC

Moderator: Hana Cervenka, First Secretary, Permanent Mission of Norway in Geneva

09:00 - 09:15 Workshop Opening (Trude Skjerve Johnson, Senior Adviser, Ministry of Foreign Affairs, Norway)

09:15 - 09:45 The evolution of Article X of the BWC (James Revill, Research Fellow, University of Sussex)

09:45 - 10:15 The Biological Weapons Convention and Article X implementation: An introductory overview (Daniel Feakes, Chief BWC ISU)

10:15 - 10:45 Coffee break

Session II: Building capacities at the national, regional and global level

Moderator: Ngoc Phuong van der Blij, Political Affairs Officer, BWC ISU

10:45 – 11:15 Harnessing frontier technologies for sustainable development (Angel González Sanz, Chief, Science, Technology and ICT Branch, Division on Technology and Logistics, UNCTAD)

11:15 – 11:45 Role and Importance of education and awareness in the implementation of the Biological Weapons Convention: Moroccan Experience (Fatima Lamchouri, Professor at the Polydisciplinary Faculty of Taza, Sidi Mohamed Ben Abdellah University of Fez, Morocco)

11:45 – 12:15 Developing human resources in biological sciences and technology related to implementation of the BWC (Jean Pascal Zanders, Chairman, Advisory Board on Education and Outreach, OPCW)

12:15 – 13:15 Lunch

Session III: International collaboration at the health-security interface

Moderator: Trude Skjerve Johnson, Senior Adviser, Ministry of Foreign Affairs, Norway

13:15 - 14:15 Promotion of capacity building, through international cooperation, in biosafety and biosecurity to enhance preparedness and response capacities to outbreaks of infectious disease or biological weapons attacks (Arne Broch Brantsaeter, Senior Consultant, Norwegian National Unit for CBRNE Medicine, Oslo University Hospital, and Anna Agnieszka, Norwegian Defence Research Establishment)

14:15 - 14:45 Building innovative partnerships between public, private, philanthropic and civil organisations to enhance epidemic preparedness (Gro Anett Nicolaysen, Resource Mobilisation Lead, CEPI)

14:45 - 15:15	An Innovative Partnership for Pandemic Preparedness (Anne Huvos, Manager, WHO PIP Framework Secretariat, WHO)

Session IV: Challenges and opportunities for international cooperation and assistance

Moderator: Hermann Alex Lampalzer, Political Affairs Officer, BWC ISU

15:15 - 15:45	the International Centre for Genetic Engineering and Biotechnology: at the intersection between research and cooperation (Alessandro Marcello, Group Leader, Molecular Virology, ICGEB) – via skype
15:45 - 16:15	Biotechnology in developing countries (Li Yin, DDG of the international cooperation department of the Chinese Academy of Sciences)
16:15 - 16:45	Coffee break

Session V: Considerations for the way ahead

Moderator: Daniel Feakes, Chief BWC ISU

16:45 - 17:00	General comments from participants
17:00 - 17:15	Strengthening cooperation and assistance under Article X (Maria Teresa Almojuela, Ambassador of the Philippines, and Chairperson of the Meeting of Experts 1)
17:15- 17:30	Workshop Closure
17:30 - 19:30	Cocktail dinatoire hosted by Norway

Meeting of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction

3 August 2018

English only

2018 Meeting
Geneva, 4-7 December 2018

Meeting of Experts on Cooperation and Assistance, with a Particular Focus on Strengthening Cooperation and Assistance under Article X
Geneva, 7-8 August 2018
Item 6 of the provisional agenda
Identification of challenges and obstacles to developing international cooperation, assistance and exchange in the biological sciences and technology, including equipment and material, for peaceful purposes to their full potential, and possible ways and means of overcoming these

Institutional Mechanism for International Co-operation and Compliance with Article X

Submitted by the Bolivarian Republic of Venezuela on behalf of the Group of the Non-Aligned Movement and Other States Parties to the BWC

I. Introduction

1. During the Eighth Review Conference the NAM and other States Parties to the BWC proposed a Working Paper BWC/CONF.VIII/WP.23, as well as during the 2017 Meeting of States Parties a Working Paper BWC/MSP/2017/WP.12, regarding Article X of the Convention. In this sense, the NAM and other States Parties to the BWC recalls the position as follows:

2. Ensuring the full, effective and non-discriminatory implementation of Article X of the Convention, has been a top priority for the NAM and Other States Parties to the BWC for a long time. While welcoming the continued co-operation between developing countries, the NAM and Other States Parties to the BWC believe that the developed countries bear special responsibility to promote international cooperation in the framework of Convention for the benefit of developing countries and refrain from imposing and/or maintaining any restrictions and/or limitations that are contrary to the Convention.

3. The rapid pace of scientific and technological developments has created new opportunities for making tangible progress on the full, effective and non-discriminatory

implementation of Article X of the Convention including inter alia developments of special relevance to disease surveillance, diagnosis and mitigation as well as advances in enabling technologies.

4. All State Parties in particular developing countries should benefit from new achievements in biotechnology through the full, effective and non-discriminatory implementation of Article X. There is a need to strengthen cooperation among States Parties in order to bridge the increasing gaps in the fields of biotechnology, genetic engineering, microbiology and other related areas between developed and developing countries.

5. The group emphasizes the importance of overcoming sustained challenges and obstacles to international cooperation, assistance and exchange in the biological sciences and technology. In this regard, one of the main challenges for full, effective and non-discriminatory implementation of Article X is the existence of unjustified restrictions and /or limitations, including politically motivated ones, imposed against States Parties inconsistent with the provisions of the Convention.

6. There is an urgent need for the removal of any such restrictions and/ or limitations. States Parties should work together to develop procedures including in particular adopting an Action Plan for full, effective, and non-discriminatory implementation of Article X which include procedures for the settlement of disputes arising from concerns about the implementation of Article X.

7. The Group underlines the importance of capacity-building through international cooperation in developing capabilities for detecting, reporting, and responding to the outbreaks of infectious disease or biological weapons attacks, including in the areas of emergency preparedness, response, management, and mitigation. In this regard, NAM and Other States Parties to the BWC recall their proposal for a mechanism on Article X implementation as outlined in their Working Paper submitted to the Seventh Review Conference.

II. Article X Action Plan

8. The NAM Working Paper identified inter-alia the following specific tasks:

(a) Identify and address the needs in terms of equipment, materials and scientific and technological information regarding the use of bacteriological agents and toxin for peaceful purposes;

(b) Identify and overcome the obstacles hampering the full, effective and non-discriminatory implementation of Article X of the Convention, including by addressing the denial cases of States Parties;

(c) Mobilize the necessary resources, including financial resources, to facilitate in line with the obligations under Article X of the Convention, the widest possible exchange of equipment, material and scientific and technological information regarding the use of biological and toxin for peaceful purposes, in particular from developed to developing States Parties;

(d) Facilitate the development of human resources in developing States Parties in the implementation of the Convention, taking into account the special situation faced by them;

(e) Coordinate cooperation with other relevant international and regional organizations for financial and technological support of activities for the use of biological agents and toxin for peaceful purposes.

9. Taking into account the humanitarian requirements related to the health and security of mankind, renewed commitment, constructive and genuine cooperation between the South and the North are required in order to meet the continuing challenges of developing countries in health related issues.

III. Article X Compliance Mechanism

10. NAM and Other States Parties to the BWC reiterate their firm position on the need for an effective mechanism to ensure the full, effective and non-discriminatory implementation of the Article X. It is imperative that the tasks identified above, with the aim of reaching effective actions, would enable States Parties to agree on an effective institutional mechanism which would facilitate in full, effective and non- discriminatory implementation of Article X obligations.

11. In the context of the mechanism, the Group reaffirms the urgent need of an undertaking by all State Parties including inter alia:

(a) To never under any circumstances impose or maintain unilateral, bilateral or collective restrictions and/or limitations on trade of drugs, medicines, vaccines, diagnostics, biological agents, equipment and /or materials for peaceful purposes in particular for treatment of patients in developing countries.

(b) To establish a procedure to settle disputes if a State Party is restricted and/or denied by another State Party or a group of States Parties on drugs, medicines, vaccines, diagnostics and related equipment and materials for peaceful purposes as inconsistent within the Article X of the Convention, including by considering establishment of a standing body.

(c) To strengthen the operationalization of cooperation database which was established by the 7th Review Conference to ensure that specific, timely and concrete offers of cooperation under Article X are provided by States Parties in the database and to consider the ways to improve reporting on this issue, taking into account the current lack of effectiveness of the referred database.

(d) To provide necessary cooperation and assistance in the form of finances, equipment, reagents and training to developing countries to strengthen capabilities for detecting and responding to infectious diseases.

(e) To collect and disseminate information on S&T developments, including new research in areas relevant to the Convention and exchanging information about databases and networks relevant to the Convention.

(f) To ensure access to such databases and networks and training of personnel without any unjustified limitation are of utmost importance to the group.

IV. Institutional Mechanism for International Co-operation and Compliance with Article X

12. Nothing in the Convention shall prejudice the rights of States Parties to, individually or collectively, conduct research with, develop, produce, acquire, retain, transfer and use microbial and other biological agents and toxins for peaceful purposes. Each State Party shall:

(a) Not establish, maintain or take either individually or collectively any discriminatory measures, including those in any international agreements contrary to the obligations undertaken in the Convention, which would hamper the economic and

technological development of States Parties to the Convention or international co-operation in the field of peaceful bacteriological (biological) activities in accordance with the provisions of the Convention, including research in biology, microbiology, biotechnology and genetic engineering, and their industrial, agricultural, medical and pharmaceutical applications; and other related areas for peaceful purposes;

(b) Undertake to review periodically, and amend or adopt as necessary, national regulations governing international exchanges and transfers of microbial and other biological agents and toxins, and equipment, materials and scientific and technological information for the use of such agents and toxins in order to ensure their consistency with the objectives and relevant provisions of the Convention.

13. The States Members of the Non-Aligned movement that are States Parties to the BWC and other States Parties, strongly believe that due to the high importance of Article X as one of the main pillars of the BWC, deliberations on the status of Article X should regularly be on the agenda of intersessional meetings, and meeting of the States Parties. They emphasize that a State party to the Convention should have the right to seek to redress and settle disputes with regard to the implementation of Article X through institutionalized measures if it is denied receiving equipment and materials for peaceful application of biology and bio-technology by another State party.

V. The Co-operation Committee

14. The Co-operation Committee (hereinafter referred to as "The Committee") established by the Review Conference of States Parties, shall be a forum for consultation aimed at promoting the effective, full and non-discriminatory implementation of Article X provisions of the Convention among the States Parties. To this end, the Committee shall consult on, monitor and review activities of international cooperation and assistance and the fullest possible exchanges of equipment, materials and scientific and technological information for the use of microbial and other biological agents, and toxins for peaceful purposes.

15. The Committee shall also work on the operationalization of offers and supplies proposed and/or requested by States Parties to serve as a channel to monitor this activity, taking into account the States Parties concerns over the mismatch of the proposed offers and requests, in particular for developing countries States Parties to the BWC.

16. The Committee could serve as institutional monitoring mechanism for Article X full, effective and non-discriminatory implementation. It could serve as forum for furtherance of confidence building and trust among States Parties. It would facilitate the conclusion of bilateral, regional and multilateral agreements, providing on a mutually advantageous, equal and non-discriminatory basis, the vehicle for coordination of national and regional programs that would promote the regular peaceful exchanges through transparency between developed and developing States Parties.

17. NAM underlines the importance of dialogue and consultation aimed at full implementation of Article X. There is need for evolving in the Committee mutually agreed procedures for addressing concerns related to risks associated with prohibited activities under the convention, in which, regulatory mechanisms could be agreed and undertaken by harmonizing both promotional and regulatory aspects for full, effective and non-discriminatory implementation of Article X which are vital to sustaining a successful Convention. In this regard, NAM stresses the need for establishing an effective mechanism among States Parties to address concerns and resolve disputes that may arise as to the full implementation of Article X on the basis of procedures to be agreed by States Parties at the Review Conference.

BWC/MSP/2018/MX.1/WP.6

6 August 2018

English only

Meeting of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction

2018 Meeting
Geneva, 4-7 December 2018

Meeting of Experts on Cooperation and Assistance, with a Particular Focus on Strengthening Cooperation and Assistance under Article X
Geneva, 7-8 August 2018
Item 6 of the provisional agenda
Identification of challenges and obstacles to developing international cooperation, assistance and exchange in the biological sciences and technology, including equipment and material, for peaceful purposes to their full potential, and possible ways and means of overcoming these

Cooperation and Assistance, with a particular focus on Strengthening Cooperation and Assistance under Article X

Submitted by the Islamic Republic of Iran

1. Protection and promotion of peaceful biological activities constitute one of the objectives and purposes of the BWC. States Parties to the BWC not only have right to participate in the fullest possible exchange of equipment, materials and scientific and technological information for the use of biological agents and toxins for peaceful purposes, they also have legal obligation to facilitate such an exchange.

2. Full, effective and non-discriminatory implementation of Article X is essential for the realization of the objectives and purposes of the Convention. Building sufficient capacity for disease surveillance, detection, diagnosis and containment is not possible without international cooperation, assistance and exchange in biological sciences and technology for peaceful purposes. That is raison d'etre that States Parties to the BWC are committed, under Article X, to cooperate in contributing to the development and application of scientific discoveries for prevention of disease or for other peaceful purposes.

3. The current state of implementation of Article X is disappointing for developing States Parties. This situation is the result of a number of unaddressed challenges and obstacles. The lack of an institutional mechanism to facilitate full, effective and non-discriminatory implementation of Article X continues to pose the main challenge to developing international cooperation, assistance and exchange in the biological sciences and technology for peaceful purposes to their full potential.

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4. The other main challenge to developing international cooperation, assistance and exchange in the biological sciences and technology for peaceful purposes is the existence of restrictions and limitations inconsistent with the Convention. While the States Parties to the BWC have undertaken to implement the Convention in a manner not to hamper the economic and technological development of other States Parties, some States continue to apply denial and/or restrictive policies in their approach to the implementation of Article X of the Convention. Such policies not only obstruct the realization of Article X rights but also contravene Article X commitments. In spite of efforts in various fora, there exists so far no mechanism or procedure to address the concern of States Parties that are subject to restrictions or denial policies.

5. The provisions of Articles III and IV of the Convention should not be used to impose restrictions and/or limitations on transfers and exchange of scientific knowledge, technology, equipment and materials for peaceful purposes. International cooperation under Article X of the Convention is imperative as it contributes to capacity building in biosafety and biosecurity and for detecting, reporting and responding to outbreaks of infectious disease or biological weapons attacks, including in the areas of preparedness, response, and crisis management and mitigation.

6. Developed countries have special role and responsibility in strengthening scientific and technological cooperation in the peaceful uses of biological agents and toxins. They need to live up to their responsibility in particular with respect to the provision of financial and technical assistance and facilitating fullest possible exchange and transfer of equipment, materials and scientific and technological information for peaceful purposes. States Parties possessing advanced biotechnology should fully and effectively implement their obligation under Article X of the Convention on an equal and nondiscriminatory basis.

7. The continued existence of the above-mentioned challenges and restrictions to international cooperation, assistance and exchange in biological sciences and technology for peaceful purposes is a matter of deep concern and should be addressed. Denial and restrictive policies and practices in implementation of Article X if remain unaddressed would result in further undermining the integrity of the Convention and jeopardize its object and purpose.

8. To ensure all States Parties have access to equipment, materials and scientific and technological information for the use of biological agents and toxins for peaceful purposes and to the benefits of biotechnology, genetic engineering, microbiology and other related areas for peaceful purposes, international cooperation and assistance under article X of the convention must be strengthened.

9. States Parties should agree on developing institutional mechanism with a view to ensuring multilateral cooperation among all States Parties for peaceful purposes. Pending the establishment of such a mechanism through negotiation in an open-ended working group, States Parties should promote understanding to develop an action plan for implementation of Article X, as proposed by the group of NAM and Other States.

10. States Parties should undertake a review of national regulations governing international exchanges and transfers in order to ensure their consistency with the provisions of article X of the Convention. They should also undertake not to impose or maintain, under any circumstances, restrictions and limitations on trade in such areas as drugs, medicines, vaccines, diagnostics, biological agents, equipment and materials for peaceful purposes in particular for treatment of patients in developing countries.

11. States Parties should undertake to establish a multilaterally negotiated procedure to settle disputes if a State Party is restricted and/or denied by another State Party or a group of States Parties, inconsistent with the Article X of the Convention, to access drugs, medicines, vaccines, diagnostics and related equipment and materials for peaceful purposes.

Such a procedure could include establishment of a standing body, as proposed by the group of NAM and Other States.

12. Scientific and technological cooperation on peaceful uses of biological agents and toxins should include, inter alia, the transfer and exchange of information, training of personnel and transfer of materials and equipment on a systematic and long-term basis. States Parties should promote understanding and effective action on specific measures for the transfer and exchange of information, materials and equipment among States on a systematic and long-term basis, including by:

(a) mobilizing resources, including financial resources;

(b) capacity-building in States Parties in need of assistance in the fields of disease surveillance, detection, diagnosis and combating of infectious diseases and related research;

(c) provision of technical cooperation in the development and production of vaccines and drugs to treat infectious disease in the developing States Parties;

(d) financing the establishment and promotion of vaccine production facilities and projects in the developing States Parties;

(e) facilitating participation of developing countries in the development and application of biotechnology on an equal and non-discriminatory basis;

(f) concluding appropriate agreements that would promote the regular exchange of scientific and technical information in the fields biotechnology, genetic engineering, microbiology and other related areas for peaceful purposes;

(g) agreement on facilitating the flow of information in the field of genetic engineering, biotechnology and other scientific developments through the establishment of a world data bank under the supervision of the United Nations;

(h) promoting collaborative research and development including through exchange of scientists and providing training opportunities in advanced laboratories;

(i) building regional partnerships to enhance disease surveillance and containment initiatives;

(j) defining the role of the United Nations and its specialised agencies in increasing international cooperation and assistance in the use of bio-sciences and genetic engineering for peaceful purposes, including in capacity building in the fields of vaccine and drug production, disease surveillance, detection, diagnosis, and containment of infectious diseases as well as biological risk management;

(k) defining the role of the private sector, as appropriate, in capacity building in the fields of vaccine and drug production, disease surveillance, detection, diagnosis, and containment of infectious diseases as well as biological risk management, while reaffirming that role of private sector would not in any way replace the major role of government in this field.

BWC/MSP/2018/MX.1/WP.7

Meeting of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction

6 August 2018

English only

2018 Meeting
Geneva, 4-7 December 2018

Meeting of Experts on Cooperation and Assistance, with a Particular Focus on Strengthening Cooperation and Assistance under Article X
Geneva, 7-8 August 2018
Item 4 of the provisional agenda
Consideration of the reports of the States Parties on their full and comprehensive implementation of all provisions of Article X

Report on Implementation of Article X of the Biological and Toxin Weapons Convention

Submitted by the United States of America

Summary

The United States continues to be a global leader in providing assistance and cooperation, as called for by Article X of the BWC. This includes more than $10 billion in assistance for global health in 2017 alone, including through foreign assistance arrangements with more than 60 low- and middle-income countries; collaboration with, and training and education of, many thousands of foreign life scientists, health professionals, and students every year; and substantial cooperation with a large number of countries on global health security, biological threat reduction, and export controls, and nearly $50 billion in exports of items in the areas of life science and biotechnology over the past year.

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I. Introduction

1. The United States is firmly committed to fulfilling all of its obligations under the Biological and Toxin Weapons Convention (BWC), including those under Article X. The United States places great importance on Article X implementation and continues to invest significant resources in these efforts. The Eighth Review Conference confirmed the importance of implementation of Article X and encouraged "States Parties to provide at least biannually appropriate information on how they implement this Article." Such reporting is an important element of any effort to ensure that the undertakings of Article X are being met, both because they can facilitate understanding of successful approaches and identification of challenges, and because the vast majority of States Parties' efforts to achieve these undertakings take place outside the formal confines of the BWC.

2. Article X embodies an international commitment to partnership, sharing of information, and the development and application of the life sciences for beneficial purposes. The United States and the international community have worked together collectively to pursue mutual goals related to Article X, including, *inter alia*:

(a) Contributing to the advancement of life sciences for peaceful purposes;

(b) Building sound, appropriate regulatory and oversight systems at all levels to ensure the safe and peaceful application of dual-use materials and technologies;

(c) Effectively implementing our obligations under the BWC and United Nations Security Council Resolution (UNSCR) 1540;

(d) Advancing educational and collaborative opportunities for the international scientific community; and

(e) Improving global health security through preventing, detecting, and responding effectively to infectious disease, whether naturally occurring, deliberate, or accidental.

3. The United States Government is the largest funder and implementer of global health programs worldwide. U.S. funding for global health grew to more than $10 billion in 2017, and we provide direct support in the area of global health to more than 60 low- and middle-income countries through bilateral foreign assistance arrangements. The United States also engages in a wide range of other cooperation and capacity-building assistance relevant to Article X, with a very wide range of partners. It is important to recognize, however, that formal "assistance" programs and direct government-to-government engagement comprise only a part of a much larger undertaking. In the United States, activities and programs to promote exchange, cooperation, and assistance that contribute to our implementation of Article X are undertaken not only by the United States Government, but also by individuals, industry, foundations, academia, and other non-governmental organizations. This is consistent with the provisions of Article X, which calls on States Parties to "facilitate" exchange in the life sciences for peaceful purposes. Many projects are multi-sectoral and involve collaboration between the United States Government and other organizations.

4. The large number of U.S. programs and other efforts underway that contribute to the implementation of Article X do not take place solely, or even primarily, in the BWC forum. The programs and activities conducted by the United States, which are many and varied, are also undertaken for their own intrinsic value, whether to advance our understanding of the life sciences, promote developmental and humanitarian objectives, improve global health, or all of the above. Providing programs and initiatives through a broad range of institutions, stakeholders, and fora allows for the advancement of all of these objectives.

5. The breadth and scope of U.S. contributions and assistance precludes a comprehensive listing of every program in its entirety, but this report provides a selection of examples designed to illustrate the range and diversity of activities and demonstrate the full commitment of the United States to the letter and spirit of Article X.

6. The remainder of the report is organized around the three basic commitments contained in Article X:

(a) to facilitate the fullest possible exchange of information, equipment, and materials for peaceful purposes;

(b) to contribute to the advancement and application of the life sciences; and

(c) to implement the BWC in ways that avoid hampering the economic and technological development of States Parties.

II. Bilateral, regional, and multilateral efforts to facilitate the fullest possible exchange of biological equipment, materials, and information for peaceful purposes

7. When the BWC was negotiated, many scientists believed that antibiotics, vaccines, and other medical developments had led to the imminent demise of infectious disease; today, however, the numbers of outbreaks and of emerging and reemerging infectious diseases, many of which easily cross international borders, are on the rise. Strengthening global capabilities to prevent, detect, and treat naturally occurring infectious diseases is therefore a vitally important application of the life sciences.

8. Moreover, measures to limit vulnerability to infectious diseases, such as bolstering health care infrastructure, strengthening diagnostic capabilities, and developing new medical therapies, are beneficial not only in the event of a naturally occurring outbreak, but also in the case of a deliberate attack with a biological weapon. Improved disease surveillance can help public health officials to identify outbreaks that are caused deliberately, because unusual events can be more easily recognized if there is sufficient background data on the usual pattern of naturally occurring diseases. Thus, helping other States Parties strengthen their national capacities to prevent, detect, and respond to infectious disease outbreaks is a direct contribution to the object and purpose of the BWC, including Article X obligations.

9. The United States has provided a wide range of assistance to international partners, through bilateral, regional, and multilateral channels in both the public and private sectors, including, *inter alia*, improvements to global detection of disease; enhancements in capacities to investigate, diagnose, prevent, and respond to disease outbreaks; other improvements in global health; and cooperation on threat reduction and export controls.

Disease surveillance, detection, and response

10. In partnership with more than 60 other countries, international organizations, and public and private stakeholders, the United States is implementing *the Global Health Security Agenda (GHSA)*, with the intent to prevent and reduce the likelihood of disease outbreaks, detect infectious disease threats early to save lives, and rapidly respond to outbreaks with coordinated multi-sectoral engagement. The GHSA aims to ensure that participants are fully prepared to detect and respond to disease threats, as well as spur

progress on compliance with the IHR and other global health security frameworks, such as OIE standards and guidelines for veterinary services and animal health systems.

11. In July 2015, the United States Government announced its intent to invest more than $1 billion in resources to expand the GHSA and support partner countries in achieving its targets. Meeting these targets will expand our ability to prevent or mitigate the impact of naturally occurring outbreaks and intentional or accidental releases of dangerous pathogens; detect and report outbreaks when they occur; and respond and control outbreaks before they become epidemics. The United States has partnered with 32 international partners to undergo independent external assessments and establish a five-year roadmap to achieve and sustain the targets of the GHSA in each country. To do so, the United States Government, through the U.S. Agency for International Development (USAID), the Centers for Disease Control and Prevention (CDC), and other agencies of the Department of Health and Human Services, the Department of Defense, and the Department of Agriculture, is working with ministries of health, agriculture, environment and other key stakeholders in other countries to detect viruses with pandemic potential, improve laboratory capacity to support surveillance, strengthen national and local capacities to respond, and provide education on biosafety and biosecurity.

12. The CDC, as the nation's primary agency and worldwide leader for disease detection, has worked in partnership with countries to develop sustainable capacities to support disease surveillance and response activities. Through bilateral assistance and programs like the *Global Disease Detection (GDD) program*, CDC partners with host countries to identify new health threats and reduce the burden of infectious disease. GDD has established 10 regional centers to work directly with more than 59 ministries of health during outbreak responses to provide technical support and scientific collaboration. By enhancing laboratory systems, increasing preparedness and communication activities, and conducting public health research, among other activities, GDD works with partner countries to build and strengthen public health capacity. From 2006-2017, GDD Centers responded to over 2,250 disease outbreaks and other public health emergencies, with nearly two-thirds of responses initiated within 24 hours of receiving a request for assistance. GDD Centers have assisted in the detection and identification of 11 strains and pathogens never before discovered and 64 strains and pathogens new to a region. Another example of the CDC's support to other countries is its assistance to the Africa Centers for Disease Control and Prevention (Africa CDC), officially opened by the African Union in January 2017. Recognizing the value to global health security of an African-owned institution to prevent, detect, and respond to public health threats affecting African nations, the AU and the United States are working together to develop this new organization.

13. USAID's *Emerging Pandemic Threats (EPT)* and *Global Health Security* programs seeks to aggressively preempt or combat emerging diseases that could spark future pandemics. The EPT and Global Health Security programs are composed of seven complementary projects (ONE HEALTH WORKFORCE, PREDICT, PREPAREDNESS & RESPONSE, Infectious Disease Detection and Surveillance (IDDS), and USAID's work with the Food and Agriculture Organization (FAO), World Health Organization (WHO), and International Federation of Red Cross and Red Crescent Societies (IFRC)). These programs operate in 32 countries (including 16 USG Phase I Global Health Security Agenda (GHSA) countries) in Africa, Asia, and the Middle East, in coordination with CDC and the Department of Defense (DoD). They focus on identifying zoonotic viruses at interfaces involving humans and livestock, domestic animals, or wildlife; characterizing and mitigating risk for disease transmission between animals and people; strengthening laboratory capacity to diagnose and report human and animal pathogens; providing workforce training to include strengthening outbreak response capacity; conducting community preparedness and engagement; and enhancing mechanisms and policies related to One Health and prevention, detection, and response for infectious disease in animals and

people. EPT and the Global Health Security programs work with governments, universities, and other key in-country, regional, and global partners to strengthen country-level capacities for routine infectious disease detection and outbreak response. EPT and the Global Health Security programs support the One Health concept by integrating multisectoral and multidisciplinary approaches in strategic planning and implementation.

14. The USDA *Agricultural Research Service (ARS)* is actively engaged in implementing research programs that help prevent, detect, or improve surveillance of plant and animal diseases, including emerging disease and zoonotic agents that pose a threat to human health. ARS also actively collaborates with international partners worldwide on research projects dedicated to support disease surveillance programs for transboundary animal diseases. ARS is one of the founding members of the Global Foot-and-Mouth Research Alliance (GFRA) and the Global African Swine Fever Research Alliance (GARA), and is an active member of the global network of expertise on animal influenza (OFFLU), which supports the FAO and World Organization for Animal Health (OIE) global efforts to control and eradicate transboundary animal diseases that affect the health of animals and people worldwide. ARS also partners with the American Biosafety Association (ABSA) to conduct biosafety training relevant to agriculture to many national and international participants at a biennial symposium.

15. The Armed Forces Health Surveillance Branch's *Global Emerging Infections Surveillance Section (AFHSB-GEIS)* enhances health protection of the armed forces through an integrated worldwide military laboratory network that conducts emerging infectious disease surveillance. GEIS provides direction, funding, and oversight to this laboratory network that works with more than 50 international partners based in all regions of the world. These partners conduct disease surveillance and rapid outbreak response, perform innovative pathogen discovery activities, and enhance coordination and collaboration efforts between DoD agencies and international partners to facilitate information sharing and early detection of emerging infectious disease threats. The GEIS program communicates information from its surveillance activities to support health protection decisions for forces assigned in the DoD Geographic Combatant Commands' regions of interest. Additionally, GEIS information is used to increase public awareness and understanding of global health security issues and inform public health decisions among the United States Government and international agencies. GEIS encourages its partners to present and publish their findings in medical journals, global health security publications, and at scientific meetings, and to comply with the International Health Regulations.

16. In fiscal year 2018, AFHSB-GEIS distributed more than $58 million to military laboratories to support a range of emerging infectious disease surveillance projects in collaboration with international partners. The projects addressed four main focus areas including enteric infections, respiratory infections (including providing input to the WHO influenza vaccine strain selection process), febrile and vector borne infections, and antimicrobial resistant infections (to include resistant *Neisseria gonorrhea*).

Capacity enhancement and global health security

17. In addition to the efforts above, the United States further supports the WHO's International Health Regulations (2005) (IHR), which, *inter alia*:

- Provide a framework for WHO alert and response activities that are implemented in collaboration with countries to control international outbreaks and other public health risks and emergencies;
- Allow the WHO to provide support for the implementation of national capacities for epidemic preparedness and response, including laboratory capacities and early warning alert and response systems; and

- Standardize approaches for readiness and response during a public health emergency of international concern, allowing the International Health Regulations Emergency Committee to issue travel and trade recommendations based on the best evidence available.
- The United States coordinates and works with multiple domestic and international partners to strengthen core public health capacities and capabilities globally in line with the IHR.

18. The Assistant Secretary for Preparedness and Response (ASPR) in the Department of Health and Human Services manages cooperative agreements with partner countries and international organizations to strengthen core public health emergency preparedness and response capacities abroad. ASPR works through these partnerships to strengthen emergency preparedness and response by building surveillance networks, strengthening laboratory diagnostic capacity, training personnel, and improving communication capacities within the Ministries of Health of partner countries.

19. ASPR leads U.S. engagement in the *Global Health Security Initiative (GHSI)*. GHSI is an informal network formed in 2001 to ensure health-sector exchange and coordination of practices in confronting risks to global health posed by chemical, biological and radio-nuclear threats, as well as by pandemic influenza. The member countries/organizations of the GHSI are Canada, France, Germany, Italy, Japan, Mexico, the United Kingdom, the United States, and the European Commission; the WHO serves as a technical advisor. The GHSI partners hold an annual meeting of Health Ministers to foster dialogue on topical policy issues and promote collaboration. Other initiatives involving senior health officials as well as policy, technical, and scientific personnel take place on a regular basis, focused on risk management, communications, chemical events, radio-nuclear threats, pandemic influenza, and global laboratory cooperation.

Other improvements in global health

20. In addition to the programs and activities described above, the United States is a major contributor to the Global Fund to Fight AIDS, Tuberculosis, and Malaria, a multilateral organization aimed at fighting the three diseases worldwide. We also contribute significantly to several other multilateral health organizations, including UNAIDS, WHO, the International AIDS Vaccine Initiative (IAVI), and the GAVI Alliance, among others.

National implementation of the BWC

21. The undertaking to facilitate exchange for peaceful purposes carries with it the responsibility to take appropriate steps to prevent misuse. Effective national implementation measures by States Parties are therefore a key means of achieving the aims of Article XI. Through range of assistance and cooperation activities, the United States works with other BWC States Parties to implement the Convention. In 2016, we worked with Canada, Chile, Ghana, and Mexico to review our respective means of national implementation and share best practices. Since then, we have worked not only with Ghana, but also with Morocco, to provide assistance on specific measures to enhance implementation.

22. A key area of BWC implementation is Article III, which obligates Parties not to transfer biological agents, toxins, weapons, related equipment, or delivery systems for non-peaceful purposes. The Department of State's Export Control and Related Border Security (EXBS) Program seeks to prevent the proliferation of weapons of mass destruction (WMD)

and destabilizing accumulations and irresponsible transfers of conventional weapons by helping to build effective national strategic trade control systems in countries that possess, produce, or supply strategic items, as well as in countries through which such items are most likely to transit. To achieve this goal, the EXBS Program works with partner governments to identify regulatory and institutional gaps and strengthen partner countries' legal authorities and institutional capabilities. The EXBS Program provides a wide range of technical assistance, from executive exchanges to training workshops to the provision of detection equipment and specialized training for border control and enforcement agencies.

23. EXBS is active in over 50 countries and draws on the expertise and cooperation of a range of U.S. government departments and agencies, the private sector, and domestic and international nongovernmental organizations to provide legal, licensing, and enforcement training, along with information systems and equipment. By strengthening the capacity of their trade and border control systems, the program helps partner countries adhere to the guidelines of multilateral export control regimes and meet their obligations and commitments to important international initiatives, including Article III, UNSCR 1540, and the Proliferation Security Initiative.

Threat reduction

24. A related area is assistance and cooperation on efforts directly to reduce the threat that biological agents and toxins will be used for harm. The U.S. Department of State's *Biosecurity Engagement Program (BEP)* works in partnership with countries in the Middle East and North Africa, South Asia, Southeast Asia, sub-Saharan Africa, and Eastern Europe to promote safe, secure, and sustainable bioscience throughout the world. Specific activities planned for the coming year include conducting surveillance and laboratory diagnostic testing for emerging diseases in Southeast Asia; enhancing physical security of West African laboratories that house large numbers of Ebola samples; promoting One Health collaborations in East Africa; and supporting a biorisk management and genomics training center in the Middle East that serves as a regional training hub for biosecurity, biosafety, and molecular diagnostics.

25. The Department of State also leads U.S. interagency participation in the *G7 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction (GP)*, an initiative aimed at preventing terrorists from acquiring or developing weapons of mass destruction. The GP's Biosecurity Sub-Working Group has adopted five key "deliverables" to guide Partner's efforts to strengthen biosecurity and reduce threats, and serves as an important vehicle to coordinate efforts and build partnerships. The GP has regularly reported to the BWC on its collective efforts in furtherance of Article X and biosecurity.

26. The Department of Defense *Cooperative Biological Engagement Program* (CBEP) implements projects with the objectives of reducing threats posed by pathogens of security concern and related materials and expertise, as well as other emerging infectious disease risks. CBEP works to enhance partner-country and regional capabilities to: 1) identify, consolidate, and secure collections of pathogens and diseases of security concern in order to prevent the sale, theft, diversion, or accidental release of such pathogens; and 2) rapidly and accurately survey, detect, diagnose, and report outbreaks of security concern in accordance with international reporting requirements and in support of international nonproliferation agreements. CBEP also works to establish and enhance international research partnerships between U.S. and partner country scientists. CBEP programs are supported in partnership with countries throughout Africa, South and Southeast Asia, East and Central Europe, and the Middle East.

27. CBEP continues to support training programs in partner countries focused on enhancing the skills essential for effective biosurveillance programs; promoting a culture of

safe, secure, and responsible life science research; enhancing emergency response skills; and fostering multi-sectoral cooperation between health and security forces to enhance response capacity to a deliberate biological attack. CBEP has also helped partner countries to implement specific projects. For example, the program provided diagnostic laboratory support in several West African countries, and partnered with countries in the Caucasus to implement an electronic disease surveillance system to facilitate rapid detection, diagnosis, and reporting of infectious disease outbreaks.

III. Contributions to the development and application of scientific discoveries in the life sciences

28. The United States is a world leader in life sciences research and development (R&D), accounting for more than a quarter of global investment. The United States Government provides support that enables scientists to participate in and foster the exchange of ideas that advance knowledge sharing in the life sciences. American universities, biotech companies, and individual biologists also drive both basic science and its application. The federal government no longer funds a majority of the basic research carried out in the United States. Data from the National Science Foundation (NSF) show that federal agencies provided 44% of the $86 billion spent on basic research in 2015 and reveal a slow but steady rise in spending on basic research by universities and private foundations, which reached a combined $22 billion in investment in 2015. The NSF data also indicated that U.S. pharmaceutical industry investment in basic research soared from $3 billion in 2008 to $8.1 billion in 2014.

International collaboration and exchange programs for scientific research

29. Programs that promote science education, train young scientists, and facilitate international researcher-to-researcher collaborations are further contributions to the fulfillment of U.S. Article X obligations. Such programs are beneficial for all participating countries and contribute to international scientific progress.

30. The Department of State's *Office of Science and Technology Cooperation (STC)* negotiates science and technology agreements, facilitates technical cooperation under those agreements, and engages with allies and partners on a range of science, technology, and innovation issues. Currently, the United States is party to more than 50 bilateral and multilateral science and technology agreements that provide frameworks for scientific collaboration. Among other efforts, STC implements the U.S. Science Envoy Program, through which eminent U.S. scientists and engineers build connections with the scientific communities in partner countries, promote science education, and identify opportunities for ongoing bilateral cooperation. STC also administers the Embassy Science Fellows Program, which dispatches U.S. government scientists to U.S. embassies for temporary assignments related to environment, science, technology, health, and other issues that have significant positive impact on host countries.

31. The National Academies of Sciences, Engineering, and Medicine, in cooperation with sponsoring federal laboratories and other research organizations, conducts the *National Research Council Research Associateship Programs*, which have supported the research of more than 14,000 scientists and engineers since their establishment in 1954. The goal of these programs is to provide advanced training and collaborative research opportunities for highly qualified postdoctoral and visiting scientists, while enhancing the research conducted in federal laboratories and affiliated institutions.

32. The Department of Health and Human Services supports many international research, training, and scientific exchange programs, including, *inter alia*:

(a) The National Institutes of Health (NIH)/National Institute of Allergy and Infectious Diseases' *International Centers of Excellence in Research* program and multiple collaborative research initiatives with counterpart foreign institutions, which undertake research of mutual benefit in disease-endemic countries through partnerships that engage U.S. and foreign scientists who participate in scientific studies and training both in the U.S. and overseas;

(b) The *NIH Visiting Program*, which provides opportunities for foreign scientists to train and conduct collaborative research at the NIH;

(c) The *NIH/Fogarty International Center*, which supports promising research initiatives in the developing world through grants and fellowships and develops new partnerships between U.S. scientists and their counterparts abroad;

(d) The NIH/National Cancer Institute (NCI)'s *Short Term Scientist Exchange Program*, which facilitates scientific interactions between non-U.S. scientists and researchers at NCI, and the International Participants for the Cancer Prevention Fellowship Program's Summer Curriculum in "Principles and Practice in Cancer Prevention and Control";

(e) The Food and Drug Administration (FDA)'s *Foreign National Training Program*, which enables researchers from foreign countries to initiate and conduct research that complements projects at the FDA's National Center for Toxicological Research.

(f) The Centers for Disease Control and Prevention's (CDC's) *Epidemic Intelligence Service (EIS)* is a two-year training program for health and veterinary professionals interested in applied epidemiology. Primarily a domestic program for the training of "Disease Detectives", the EIS programs also accepts a limited number of non-U.S. citizens each year;

(g) The CDC's *Field Epidemiology Training Program (FETP)*, modeled after the domestic EIS training, works with other countries to develop and train their own workforce of field epidemiologists who detect, respond and contain emerging health threats wherever they occur. Over 70 countries have participated in FETP programs, with more than 10,000 graduates worldwide.

33. The Department of Defense provides an opportunity for U.S. military and civilian scientists to conduct research in foreign government laboratories and for foreign military and civilian scientists to work in U.S. Department of Defense laboratories through the Engineer and Scientist Exchange Program. The Department has signed with 16 countries formal international agreements with reciprocal working arrangements for scientists in governmental and defense organizations.

34. The United States Department of Agriculture (USDA) Foreign Agricultural Service (FAS) offers international trade and scientific exchange programs that help partner countries strengthen their capacities for agricultural productivity, food security and participation in international trade. These FAS programs link U.S. and foreign scientists and policymakers to address mutual priorities for prevention, surveillance, detection and diagnosis of plant and animal diseases, and food safety systems. For example, recent participants in the *USDA Norman E. Borlaug International Agricultural Science and Technology Fellowship Program* and *Cochran Fellowship Program* have worked on combating aflatoxin, African swine fever, anthrax, brucellosis, foot-and-mouth disease, highly pathogenic avian influenza, Rift Valley fever, tuberculosis, and additional diseases and pests of economic importance. FAS capacity-building programs also promote

international cooperation on other beneficial applications of life sciences, such as molecular genetic techniques for developing improved crop varieties.

35. American colleges and universities also engage in joint research collaborations with colleagues across the globe and educate many of the world's emerging scientists through undergraduate, graduate, and post-graduate training. According to the 2016 annual survey conducted by the Council of Graduate Schools (CGS), in which four hundred U.S. institutions that offer master's and certificate and doctoral programs participated, about 92,500 first-time international graduate enrollments took place during the Fall 2016 admission cycle, a 5% rate of growth over the previous cycle. Today, the United States remains the country of choice for the largest number of international students, hosting about 1.21 million of the 4.6 million enrolled worldwide in 2017. About fifty percent of them were studying science, technology, engineering, and math (STEM) fields.

36. Additionally, many nongovernmental organizations and foundations based in the United States promote engagement among scientists from around the world. Some of these entities explicitly sponsor the scientific development of foreign researchers; for example, the Howard Hughes Medical Institute distributes International Student Research Fellowships, which are intended to facilitate the research training of outstanding international predoctoral students in the biomedical and related sciences. Other nongovernmental organizations host scientific exchanges and fora to bring scientists together to share best practices and lessons learned, and to highlight the role of science in society. One noteworthy example is the *Intel International Science and Engineering Fair (ISEF)*, a program of the Society for Science and the Public. ISEF is the world's largest pre-college science competition, with $4 million in awards and judged by doctoral-level scientists. Each year it enables more than 1,800 high school students from more than 75 countries, regions, and territories to showcase their independent research. The *American Society for Microbiology (ASM)* also has a robust program to engage international partners and foster collaboration and partnership; its premier event, ASM Microbe, is the largest gathering of microbiologists from across the globe and provides a forum to explore the full scope of microbiology. ASM also regularly hosts conferences focusing on specialized areas, including clinical virology, biodefense, and emerging infectious diseases.

Open access and online training courses

37. Many United States institutions support "open access" – the principle of making research results broadly available, free of charge. Open access databases promote collaboration and facilitate the spread of expertise throughout the globe, and reduce the costs associated with distributing scientific information and sharing results. In February 2013, the White House Office of Science and Technology Policy directed all federal departments and agencies to develop plans to make published results of federally funded research freely available to the public within one year of publication. In accordance with this directive, the Departments of Agriculture, Defense, and Health and Human Services, the Department of Energy's Office of Science, the National Aeronautics and Space Administration, the National Institute of Standards and Technology, the National Oceanic and Atmospheric Administration, and the National Science Foundation have all released plans to enhance public access to the results of research funded by these entities.

38. In addition, many U.S. colleges and universities have adopted open access policies requiring researchers to make their publications available free of charge. In some cases, these policies may apply only to graduate theses or faculty members in specific fields, or may allow researchers to opt in; some, however, apply broadly to all the research conducted at that institution. A growing number of major U.S. institutions are also making undergraduate and even some graduate courses freely available online. Yale University, the Massachusetts Institute of Technology, Stanford University, and the Johns Hopkins

Bloomberg School of Public Health are among the U.S. universities providing free and open access to a variety of courses through their own websites or through online platforms such as Coursera or edX.

39. The *TrainingFinder Real-time Affiliate Integrated Network (TRAIN)* is funded in part by the CDC and managed by the Public Health Foundation (PHF), a private, non-profit organization. TRAIN is a web-based learning network for agencies and organizations that deliver, track, and share trainings for professionals who protect the public's health. The national TRAIN network is currently made up of 26 state health departments and three federal agencies (CDC, Medical Reserve Corps, and Veteran's Health Administration) and is available worldwide. Each has its own doorway into the national TRAIN network that allows these agencies to share courses with a growing learning system of more than one million registered learners. TRAIN offers health professionals access to courses on a wide array of public health topics in a variety of formats, including classroom training, webinars, and online self-study options. Such online and distance learning opportunities enable the exchange of information between public health professionals and organizations and promote the development of the public health workforce.

Oversight of dual-use research of concern

40. The dual-use nature of much research in the life sciences requires particular responsibility on the part of those using dangerous pathogens and toxins. Given the leading role played by the United States Government in funding important public health research, it has worked with other stakeholders in this realm to produce guidance to help ensure such responsibility. In 2012, the United States issued its "Policy for Oversight of Life Sciences Dual Use Research of Concern," which established a regular review of United States Government-funded or -conducted research with certain high-consequence pathogens and toxins to identify dual-use research of concern (DURC) and implement risk mitigation measures where applicable. In 2014, a complementary policy, the "United States Government Policy for Institutional Oversight of Life Sciences Dual Use Research of Concern," was issued to address institutional oversight of DURC. These policies aim to preserve the benefits of life sciences research, while minimizing the risk of misuse.

41. In 2017, the United States Department of Health and Human Services (HHS) issued the "Department of Health and Human Services Framework for Guiding Funding Decisions about Proposed Research Involving Enhanced Potential Pandemic Pathogens" (HHS P3CO Framework), which is responsive to and in accordance with the "Recommended Policy Guidance for Departmental Development of Review Mechanisms for Potential Pandemic Pathogen Care and Oversight" previously issued by the White House Office of Science and Technology Policy. The HHS P3CO Framework, provides a multidisciplinary, department-level pre-funding review and evaluation of proposed research that is reasonably anticipated to create, transfer, or use enhanced potential pandemic pathogens (PPPs),[1] and seeks to preserve the benefits of life sciences research involving enhanced PPPs, while minimizing potential biosafety and biosecurity risks. We seek to engage other BWC Parties in a dialogue on such oversight measures, both in BWC meetings and bilaterally, as we have done with France.

[1] A PPP is a pathogen that satisfies both of the following: 1) it is likely highly transmissible and likely capable of wide and uncontrollable spread in human populations; and it is likely highly virulent and likely to cause significant morbidity and/or mortality in humans.

IV. Efforts to avoid hampering economic or technological development or international cooperation in the life sciences for peaceful purposes

International trade

42. The United States is the largest economy in the world and the second-largest exporter of goods and services. In 2017, U.S. businesses exported $1.5 trillion of goods. Specifically in the life sciences sector, the United States is a leader in the healthcare, pharmaceutical, and medical devices markets. In 2010, the United States launched the National Export Initiative (NEI), which sought to improve the private sector's ability to export goods and services; in May 2014, the U.S. Department of Commerce launched the second phase of the NEI program, NEI/NEXT, which aims to streamline the export/import process and negotiate new access, enforce existing agreements, and build the capacity of developing countries. Such measures, along with others to enhance the international trade system, promote investment, trade, and economic growth and to help firms work with our international partners abroad, illustrate U.S. efforts to avoid hampering economic or technological development or international cooperation in the life sciences for peaceful purposes.

43. The United States Government's export licensing system is designed to be fast, transparent, and effective in fulfilling Article III and United Nations Security Council Resolution (UNSCR) 1540 obligations to guard against the risks of proliferation and terrorism. In coordination with several other departments and agencies, the Department of Commerce's Bureau of Industry and Security (BIS) administers and enforces controls on the export of items with chiefly commercial uses that can also be used in conventional arms, weapons of mass destruction, terrorist activities, or human rights abuses.

44. In 2009, President Barack Obama directed the agencies involved in administering the U.S. export control system to conduct a broad-based review of export controls in order to enhance national security. This review led to the Export Control Reform (ECR) initiative. This three-phase plan will eventually consolidate the current system into a single control list, a single licensing agency, a single primary enforcement coordinating agency, and a single information technology system. As of 2018, Phase I is finished and Phase II is nearly complete. The ECR effort will make the process of export licensing easier, cheaper, and faster, while protecting U.S. interests in national and international security.

45. BIS administers and enforces controls on the export of items through the Export Administration Regulations (EAR). In the most recent period from October 1, 2017 to June 30, 2018, BIS approved 22,977 license applications valued at $190.8 billion. Of these, 1,170 licenses, valued at $87.0 million, were approved for the export of biological materials and handling equipment controlled by Australia Group. In contrast, BIS rejected only nine license applications for exports of such items, a mere 0.7% of the total. Moreover, many U.S. exports are under our no-license-required provisions, and of the $48.6 billion in U.S. exports of biological and life science items, only 0.6% ($314.9 million) even required a Commerce license. These facts demonstrate that, consistent with our obligations under Article X of the BWC, these regulations have a minimal impact on overall U.S. trade in relevant items.

Overcoming impediments to ongoing exchanges and international cooperation

46. The United States believes that partnerships for capacity-building and other forms of assistance to partner nations, whether by governments, international organizations, academic institutions, or private industry, benefit both parties in terms of economic and scientific development and fulfilling commitments under the BWC. However, a number of obstacles to successful implementation of Article X could be reduced by countries receiving assistance in order to further promote the fullest possible exchange of equipment, materials, and information.

47. Recognized, effective, and predictable intellectual property right (IPR) regulations provide an important incentive for investments in innovation and facilitate exports around the world. The lack of effective protection and enforcement for IPR can dissuade those holding the rights from investing in a country and collaborating with their institutes or academies. Strengthening IPR regulations by ensuring that relevant laws are enforced and include rigorous penalties can deter potential traffickers, provide patent holders tools for defending against infringement, lower costs for manufacturers, and provide incentives for those holding the IPR to enter new markets.

48. Comprehensive and uniform regulations support long-term research and development collaborations. Unfortunately, regulatory agencies in many States lack adequate training and resources to review patent and other regulatory applications in a timely and consistent manner, creating enormous backlogs, approval uncertainty, and market access delays. Predictable and robust legal and regulatory regimes are critical to promote investment.

49. High tariffs, taxes, and other fees also present significant market access barriers. These markups often increase the end-user price of medicine significantly, sometimes by more than 80 percent. Not only do such expenses unnecessarily increase drug costs to patients, but they also often slow product delivery. Non-tariff measures, such as customs delays or rules of origin, are less visible impediments that can also make it difficult for the pharmaceutical or biotechnology industry, or academic or government programs, to provide equipment or materials to support collaborative efforts. Such delays can be a significant deterrent to ongoing commitments to provide assistance and resources.

V. Conclusion

50. International cooperation and exchange in the life sciences and in combating disease will continue to be a core objective for the United States of America, consistent with our obligations under Article X of the Biological Weapons Convention. The United States will continue to commit significant resources to support programs for international cooperation to advance biological science for peaceful purposes; improve global health through the prevention, detection, and mitigation of disease; and develop relevant capacity worldwide. Furtherance of these aims has broad support across the full range of U.S. public and private institutions, including the United States Government, non-governmental organizations, industry, academic institutions, civil society, and the American people.

Meeting of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction

7 August 2018

English only

2018 Meeting
Geneva, 4-7 December 2018

Meeting of Experts on Cooperation and Assistance, with a Particular Focus on Strengthening Cooperation and Assistance under Article X
Geneva, 7-8 August 2018
Item 7 of the provisional agenda
Development of guidelines and procedures for mobilizing resources, including financial resources on a voluntary basis to address gaps and needs

Comparative review of biological threats needs assessment and national action plans implemented under BTWC, EU CBRN Centres of Excellence, WHO (IHR-JEE), and 1540 UNSCR

African Regional Conference, 25-26 October 2017, Rabat, Morocco

Submitted by the European Union

I. Introduction

1. The European Union and its Member States are consistently supporting the concrete implementation of Article X of the Biological and Toxin Weapons Convention (BTWC) through multiple and diverse assistance programmes and are willing to continue working on common understandings for effective action with regard to cooperation for peaceful purposes in the Convention's framework, especially by better identifying relevant needs and opportunities to match them with assistance offers. The efforts of the BTWC States Parties to enhance their national capacities with a view to improving biosafety, biosecurity and infectious disease control deserve particular attention against the backdrop of the Ebola crisis in West Africa.

2. In this context, the EU CBRN Centres of Excellence Initiative and the 2017 Italian Presidency of the G7 Global Partnership against the Spread of Weapons and Materials of Mass Destruction organised a Regional Conference in Africa to discuss countries' biosafety

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and biosecurity priorities in the context of the post-Ebola crisis. The Conference was held in Rabat, Morocco, on 25-26 October 2017. The Conference was attended by eleven African countries – Cameroon, Côte d'Ivoire, the Democratic Republic of Congo, Gabon, Ghana, Liberia, Mauritania, Morocco, Senegal, Sierra Leone and Togo – as well as by members of the G7 Global Partnership and experts from relevant international organisations such as the BTWC Implementation Support Unit, WHO, and INTERPOL.

3. Comprehensive and in-depth discussions took place during the Conference resulting in a consensual agreement among the participating African countries on a detailed set of priorities and regional trends in a number of thematic areas of assistance listed in the table, which is annexed to this document.

4. The table reflects the inputs received from national experts, focusing on biosafety and biosecurity needs, as well as corresponding information collected from relevant needs assessments devised within assistance frameworks such as the EU CBRN Centres of Excellence National Action Plans, the UNSCR 1540 National Implementation Action Plans, the Joint External Evaluation under the International Health Regulations (WHO, 2005), and the BTWC Extended Implementation Assistance Programmes under the EU Council Decision 2016/51/CFSP.

5. National experts agreed on a set of coherent and comprehensive priorities to strengthen countries' preparedness against possible future epidemic outbreaks and to strategically channel capacity-building assistance across biosafety and biosecurity macro-areas, wherever possible with a regional approach considering the transboundary rationale of actions for infectious disease control.

6. In the light of this approach, the consensual set of priorities and regional trends was presented at the plenary session of the Global Partnership, held in Rome on 15-17 November 2017, with a view to contributing to the creation of positive synergies between the policy orientations for assistance of Global Partnership members and the needs of African countries.

7. Building upon such positive experience to plan tailored actions in order to increase infectious disease control, the EU and its Member States are of the opinion that further action should be considered within the BTWC framework on the enhancement of international cooperation and assistance with a view to further promoting national and regional capacity building initiatives in the fields of biosafety and biosecurity.

II. Annex

Table: National priorities & regional trends (Pilot African Regional Conference, Rabat, 25-26 October 2017)

Capacity domain	*Macro areas/priorities*	*Needs*	*Country and sources*[1]
	Political support	Political support for CBRN National Teams as a comprehensive source of expertise & inter-ministerial coordination & cooperation	All countries present at Pilot Regional Conference in Rabat, Oct 2017
		Improve coordination between International Organizations & the national authorities dealing with biomedical issues (Ministry of Health) & biosafety & biosecurity (typically Ministry of Foreign Affairs)	
	National legislation, regulations & policies	Establish national list of controlled biological agents & toxins, as well as corresponding regulations controlling access	Côte d'Ivoire (NAP; Rabat, Oct 2017), DRC (NAP), Gabon (NAP), Mauritania (Rabat, Oct 2017)
PREVENTION		Develop/strengthen national biosafety & biosecurity legislation/regulations/policies	Cameroon (JEE); Côte d'Ivoire (JEE); Gabon (JEE; Rabat, Oct 2017), Ghana (JEE); Liberia (JEE), Mauritania (JEE; Rabat, Oct 2017), Morocco (JEE; Rabat, Oct 2017), Senegal (JEE), Sierra Leone (JEE; Rabat, Oct 2017), Togo (Rabat, Oct 2017)
	Documenting & securing high-risk biological materials at the laboratory-level	Conduct national mapping of facilities handling high-risk biological materials	Côte d'Ivoire (NAP), DRC (NAP), Ghana (Rabat, Oct 2017), Liberia (JEE), Mauritania (JEE; Rabat, Oct 2017), Morocco (NAP), Senegal (NAP; Rabat, Oct 2017), Sierra Leone (Rabat, Oct 2017)
		Establish & maintain national inventory of high-risk biological materials	Côte d'Ivoire (NAP), Gabon (NAP), Liberia (Rabat, Oct 2017), Morocco (Rabat, Oct 2017),

[1] Abbreviations: EU CBRN CoE National Action Plan ('NAP'); Joint External Evaluation under the International Health Regulations, WHO, 2005 ('JEE'); 1540 National Implementation Action Plan ('1540'); Pilot African Regional Conference, Rabat, 25-26 October 2017 ('Rabat Oct 2017').

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Capacity domain	*Macro areas/priorities*	*Needs*	*Country and sources*[1]
			Senegal (1540; Rabat, Oct 2017)
		Establish & maintain national registry of users handling high-risk biological materials	Côte d'Ivoire (NAP), Gabon (Rabat, Oct 2017), Liberia (Rabat, Oct 2017), Morocco (Rabat, Oct 2017)
		Strengthen security (infrastructure, equipment, information security) at facilities handling high-risk biological materials	Côte d'Ivoire (Rabat, Oct 2017), DRC (NAP), Gabon (Rabat, Oct 2017), Ghana (Rabat, Oct 2017), Liberia (JEE; Rabat, Oct 2017), Mauritania (JEE), Morocco (NAP; Rabat, Oct 2017) Senegal (JEE; Rabat, Oct 2017), Sierra Leone, Togo (1540; Rabat, Oct 2017)
		Conduct (joint) inspections/audits of laboratories to monitor & enforce compliance with biosafety & biosecurity requirements	Gabon (Rabat, Oct 2017), Mauritania (JEE; Rabat, Oct 2017), Morocco (Rabat, Oct 2017), Senegal (Rabat, Oct 2017), Sierra Leone (Rabat, Oct 2017), Togo (JEE)
		Strengthen inventory controls, including through improved documentation & inventory management software	Côte d'Ivoire (Rabat, Oct 2017), Ghana (Rabat, Oct 2017), Liberia (JEE; Rabat, Oct 2017), Mauritania (Rabat, Oct 2017), Morocco (Rabat, Oct 2017), Senegal (Rabat, Oct 2017), Sierra Leone (Rabat, Oct 2017)
		Move dangerous pathogens to minimum number of secure facilities or establish professionally managed & inventoried biobank	
		Improve traceability systems	Gabon (NAP; Rabat, Oct 2017)
	Transport/shipment security for high-risk biological materials	Strengthen & harmonize collection, preparation & packaging, transport/shipment & storage of biological samples to enhance safety & security	Cameroon (JEE; Rabat, Oct 2017), Côte d'Ivoire (NAP; JEE), DRC (NAP; Rabat, Oct 2017), Gabon, (NAP; Rabat, Oct 2017); Ghana (JEE), Liberia (JEE), Mauritania (JEE), Morocco (JEE), Senegal (NAP; JEE; 1540; Rabat, Oct 2017), Sierra Leone (JEE), Togo (1540; Rabat, Oct 2017)
		Improve international shipment through coordination with IATA	
		Secure further funding for specimen referral & transport	
		Officially designate reference labs	
	Laboratory biorisk management	Establish entity to be responsible for national	Gabon (JEE), Liberia (Rabat, Oct 2017)

Capacity domain	*Macro areas/priorities*	*Needs*	*Country and sources[1]*
	(biosafety & biosecurity)	laboratory biosafety & biosecurity program	
		Develop/strengthen national biosafety & biosecurity awareness raising & training programs, including (as needed) train-the-trainer programs, refresher courses & continuous training	Cameroon (Rabat, Oct 2017), Côte d'Ivoire (NAP; JEE), DRC (NAP; JEE), Gabon (NAP), Ghana (JEE), Liberia (Rabat, Oct 2017), Mauritania (JEE; Rabat, Oct 2017), Morocco (JEE), Sierra Leone (Rabat, Oct 2017), Togo (Rabat, Oct 2017)
		Develop & disseminate standardized biosafety & biosecurity curricula	
		Strengthen lab biorisk assessment to guide & update regulations, procedures & practices, including for decontamination & management of infectious waste	Cameroon (JEE), DRC (JEE), Morocco (Rabat, Oct 2017), Sierra Leone (Rabat, Oct 2017), Senegal (Rabat, Oct 2017), Togo (JEE)
		Strengthen infectious waste management at all facilities (hospitals, labs, etc.) to minimize safety & security risks	Cameroon (Rabat, Oct 2017), Gabon (Rabat, Oct 2017), Liberia (Rabat, Oct 2017), Mauritania (Rabat, Oct 2017), Morocco (Rabat, Oct 2017), Senegal (Rabat, Oct 2017), Sierra Leone (Rabat, Oct 2017), Togo (Rabat, Oct 2017)
		Strengthen lab quality management systems based on internationally recognized standards & guidelines	Côte d'Ivoire (JEE), Gabon (JEE), Liberia (Rabat, Oct 2017), Morocco (JEE; Rabat, Oct 2017)
		Pursue (further) laboratory accreditation	
	Border control/security at ports of entry	Strengthen national detection capabilities (personnel, equipment & training) at border inspection points	Côte d'Ivoire (NAP; Rabat, Oct 2017), DRC (NAP; Rabat, Oct 2017), Gabon (Rabat, Oct 2017), Ghana (Rabat, Oct 2017), Senegal (NAP), Sierra Leone (Rabat, Oct 2017), Togo (Rabat, Oct 2017)
DETECTION		Conduct biosecurity training for customs & border police to strengthen import/export/trans-shipment control	Cameroon (Rabat, Oct 2017), Ghana (Rabat, Oct 2017), Liberia (Rabat, Oct 2017), Senegal (1540; Rabat, Oct 2017)
		Strengthen cooperation between customs & police	Cameroon (Rabat, Oct 2017), Ghana (Rabat, Oct 2017) Liberia (Rabat, Oct 2017), Senegal (1540)
		Strengthen regional cooperation to combat	Cameroon (Rabat, Oct 2017), Ghana (Rabat, Oct

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Capacity domain	*Macro areas/priorities*	*Needs*	*Country and sources*[1]
		trafficking & bio/agroterrorism, including information sharing & reporting	2017), Liberia (JEE), Senegal (1540), Togo (Rabat, Oct 2017)
		Establish shared SOPs for ports and ground crossings	Côte d'Ivoire (JEE)
	Disease surveillance, early detection, identification & reporting	Conduct public health awareness campaigns on emerging & re-emerging diseases of natural, accidental or deliberate origin	Côte d'Ivoire (Rabat, Oct 2017), Gabon (Rabat, Oct 2017), Liberia (Rabat, Oct 2017), Senegal (Rabat, Oct 2017)
		Conduct biosecurity awareness raising for security forces, the private sector & others implicated in biothreat prevention & response	Cameroon (Rabat, Oct 2017), Ghana (Rabat, Oct 2017), Togo (Rabat, Oct 2017)
		Develop/strengthen (real-time) outbreak & disease (humans & animals) surveillance, including syndromic surveillance	Côte d'Ivoire (Rabat, Oct 2017), Gabon (Rabat, Oct 2017), Morocco (Rabat, Oct 2017)
		Formalize & strengthen national/regional laboratory networks, including steps to enhance information exchange	Gabon (Rabat, Oct 2017), Morocco (Rabat, Oct 2017)
		Enhance national detection & laboratory identification capabilities	Côte d'Ivoire (JEE), DRC (JEE), Ghana (Rabat, Oct 2017), Senegal (JEE)
	Rapid response to infectious disease outbreaks	Establish national/regional biological emergency response centre	Mauritania (Rabat, Oct 2017)
		Establish national/regional biological emergency response team	Senegal (Rabat, Oct 2017)
RESPONSE		Train health providers (including training on clinical diagnosis of emerging & re-emerging diseases, reporting & infection control), including in the case of accidental or deliberate release	Cameroon (Rabat, Oct 2017), Morocco (Rabat, Oct 2017), Liberia (Rabat, Oct 2017), Togo (Rabat, Oct 2017)
		Provide national veterinary services with adequate equipment, infrastructure & training	Liberia (Rabat, Oct 2017)
		Strengthen vaccine production capacity	Cameroon (Rabat, Oct 2017)

Capacity domain	*Macro areas/priorities*	*Needs*	*Country and sources*[1]
		(humans & animals)	
	Multi-level & multisectoral communication & coordination	Strengthen One Health approach (human, animal & environmental health), including information/data sharing	Ghana (JEE), Liberia (JEE), Morocco (JEE), Senegal (Rabat, Oct 2017)
		Strengthen coordination mechanisms & information sharing between public health & security sectors	Mauritania (JEE), Morocco (JEE)
		Reinforce cooperation & improve multisectoral capacity-building amongst national stakeholders (including non-governmental sectors) to ensure rapid response to emerging & re-emerging biological risks & threats	Côte d'Ivoire (NAP), DRC (NAP; JEE), Gabon (NAP), Liberia (JEE), Morocco (NAP), Senegal (NAP)
		Conduct interagency exercises to enhance multisectoral & multidisciplinary coordination & communication mechanisms	DRC (JEE), Gabon (IHR info)
		Develop & test national/regional intersectoral response plans for biological emergencies (natural, accidental, or deliberate in origin)	Gabon (Rabat, Oct 2017), Liberia (Rabat, Oct 2017), Senegal (Rabat, Oct 2017)
		Establish formal agreements (MOU's, joint protocols, etc.) to improve coordination/collaboration among national/regional stakeholders	Ghana (JEE), Morocco (Rabat, Oct 2017)
		Strengthen exchange mechanisms between countries in the region (regional approaches)	Côte d'Ivoire (Rabat, Oct 2017), Gabon (Rabat, Oct 2017), Mauritania (Rabat, Oct 2017), Morocco (Rabat, Oct 2017) Senegal (Rabat, Oct 2017)

BWC/MSP/2018/MX.1/WP.8

Meeting of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction

6 August 2018

English only

2018 Meeting
Geneva, 4-7 December 2018

Meeting of Experts on Cooperation and Assistance, with a Particular Focus on Strengthening Cooperation and Assistance under Article X
Geneva, 7-8 August 2018
Item 5 of the provisional agenda
Review of the report by the Implementation Support Unit (ISU) on the operation of the assistance and cooperation database established by the Seventh Review Conference and renewed by the Eighth Review Conference and consideration of its further operationalization, including measures to further strengthen the operation of the database, including in the light of BWC/MSP/2017/4

Improving the Utility and Functioning of the BWC Assistance and Cooperation Database

Submitted by the United States of America

Summary

In 2017 the Implementation Support Unit comprehensively overhauled the BWC Cooperation and Assistance database, in line with the decision of the Eighth Review Conference. The revamped database promises to be easier to use and more effective in facilitating assistance and cooperation among States Parties, and the numbers of requests and offers have grown substantially in recent years. Nevertheless, a number of challenges continue to limit the effectiveness of the database as a tool to facilitate Article X implementation. This paper describes those challenges and outlines a number of possible measures to improve or supplement the database.

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I. The Evolution of the BWC Cooperation and Assistance Database

1. In 2011, the Seventh Review Conference decided to establish a database to facilitate requests for and offers of assistance and cooperation among States Parties. It tasked the Implementation Support Unit to establish and administer the database, to facilitate, upon request, the exchange of information related to offers and requests and any resultant cooperation; and to report annually on the functioning of the database. No financial resources were allocated to this task, however, and as a result, the database established was extremely limited in its functionality – essentially a static webpage with links to the texts of offers and requests. Initially, all offers and requests were restricted to the password-protected portion of the BWC website, accessible only to States Parties (or, more accurately, those representatives of States Parties who had a password). Beginning in 2015, offers of assistance were listed on the publicly-accessible portion of the website; requests, however, continued to be posted exclusively on the password-protected portion of the website.

2. Despite gradual increases in both the number of offers and the number of requests, in 2016 the Eighth Review Conference tasked the ISU, with input from States Parties, to improve the Cooperation and Assistance Database "to make it more user-friendly and comprehensive, and ensure that specific, timely and concrete offers of and requests for cooperation be provided by States Parties in the database." The ISU undertook a number of steps in pursuit of this goal:

- Notifications of new offers are now sent to all States Parties;
- Notifications of new requests are sent to all States Parties who have made offers of assistance;
- With the financial support of a voluntary contribution from Ireland, the ISU transformed the static webpage into an interactive cooperation and assistance database, seeking input from States Parties and then designing a new interface, forms for offers and requests designed to elicit more specific information, and a user guide.

3. Significant progress has been made in promoting the use of the database, as can be seen from the table below:

Trends in the Use of the BWC Cooperation and Assistance Database

Year	*# Requests*	*# Requesting SPs*	*# Offers*	*# Offering SPs*
2012	1	11	11	1
2013	2	23	23	5
2014	2	28	28	5 + 1 group of SPs
2015	4	29	29	5 + 1 group of SPs
2016	19	60	60	7 + 1 group of SPs
2017	31	60	60	9 + 1 group of SPs
2018	41*	8	62**	8 + 1 group of SPs

* 39 active requests
** 60 active offers

4. Despite these positive developments, there are some indicators that suggest that the database is not yet fulfilling its potential:

- Many of the offers and requests have remained in the database for several years, with no clear indication that they have been acted upon.
- Despite the impressive increase in the numbers of offers and requests in the database, it is important to recognize that only a relative handful of States Parties have made use of this tool – as of June 2018, eight States Parties have requested assistance – fewer than one-half of one percent of all States Parties. The proportion of States Parties that have offered assistance is similarly low.

It is important to recognize what these statistics do and do not mean: they tell us something about the database, but do not necessarily tell us very much about the state of actual cooperation and assistance. For example, the lack of information on whether offers or requests have been acted on does not necessarily mean that assistance has not been provided: in some cases, requests are broad and nonspecific, so that assistance that has been provided does not completely "fulfill" the request. In others, assistance has been provided – sometimes by the programs that have offers in the database – but has been channeled through another vehicle, such as the Global Health Security Agenda or the Global Partnership. In still others, the States Parties in question may simply have failed to advise the ISU about their cooperation. Similarly, many States Parties pursue their assistance and cooperation under Article X through very different channels, as is vividly illustrated by Australia's Article X report for 2016-17 (BWC/MSP/2018/MX.1/WP.1). The cooperation and assistance database, then, must be understood as a tool that may be useful in facilitating specific types of assistance and cooperation, rather than a meaningful index of the overall state of international cooperation and assistance, and it should be evaluated with an eye to increasing its impact and utility as part of a wider range of tools.

II. Challenges to Achieving Greater Impact

5. The 2017 ISU Report (BWC/MSP/2017/4) attempted to identify some of the impediments to more effective use of the database, noting that:

> *". . . as recognized by the 2014 Meeting of States Parties, usage of the database by States Parties has been "low". Until recently, few offers or requests had been submitted to the ISU and there are approximately twice the number of offers of assistance than requests. This could partly be a result of the requests for assistance being placed on the restricted area of the BWC website. It has become apparent that some potential requesting States Parties would rather have their needs addressed informally or on a bilateral level, rather than having the information appear in the database. Another challenge is the lack of precision in some requests, which could derive from a lack of structure to the whole process."*

Placing requests on the restricted area of the website reduces their visibility, and thus the likelihood that they will be addressed; however, the ISU's observation suggests that making those requests more public might reduce the willingness of some States Parties to submit them. The ISU's overhaul of the database has sought to increase the precision of offers and requests through the use of a more detailed form that States Parties are requested to complete; to date, however, this does not seem to have resulted in significant improvements in specificity. The lack of clarity with respect to specific needs has been identified as a challenge repeatedly, including in other fora, including the G7 Global Partnership and the UNSCR 1540 Committee, which has emphasized the value of expert visits to States and the development of voluntary national implementation action plans in refining assistance

requests. This mirrors the U.S. experience in peer and implementation review exercises, which have been helpful in identifying specific needs and generating assistance.

6. To these could be added a number of other potential impediments. Based on our experience with inquiries regarding U.S. offers of assistance, it has become clear that offers on the database often do not provide particular information that would be important for an official from a State Party seeking assistance: for example, can individuals affiliated with the State Party apply individually, or is the offer intended to be an element of wider government-to-government cooperation? For training offerings, is funding included, or would applicants be expected to pay for their own travel? Is fluency in a specific language a prerequisite? Is there a specific application deadline?

7. Some of these issues could be addressed through improvements to the database, but others may not lend themselves to straightforward solutions. The database includes offers that are specific and time-limited – and which might lend themselves better to announcements via the ISU newsletter rather than posting on a database where they will rapidly become outdated. It also includes information about large assistance programs which represent major potential sources of assistance, but not "offers" in the traditional sense of that term. It would be challenging to develop an "offer" format that genuinely suits the wide range of assistance found in the database and provides a State Party seeking assistance enough information to clearly assess whether the offer is well aligned with its needs.

8. Finally, a key impediment may be that the BWC Cooperation and Assistance database is simply not the first or most useful resource a State Party might turn to when seeking assistance in most areas, whether the topic is legislation, biosafety/biosecurity, some aspect of public health capacity-building, law-enforcement investigation, or other opportunities. Continued outreach and awareness-raising by the ISU may help, but until and unless the BWC website becomes a significant repository of not only offers but links to valuable references, tools, and resources, it will remain a relatively little-used resource.

III. Some Possible Solutions

9. Paragraphs 27 through 33 of the ISU background paper describe measures that have been taken in other fields to facilitate assistance and cooperation. These should be explored in terms of their potential application in the BWC context. In addition, the following measures could be considered:

10. **Increase the visibility of requests and offers:** States Parties submitting requests should continue to have the option of submitting requests for posting on the restricted website, but should be encouraged to post them on the public website. Increased visibility will increase the chances of mobilizing assistance. Similarly, the ISU should explore ways to increase the visibility of offers, for example by highlighting individual programs or assistance offers on the main BWC webpage or in the monthly newsletter.

11. **Improve the clarity and specificity of offers and requests:** The templates provided by the ISU do not seem to have been widely adopted by States Parties submitting either offers or requests. Where possible, this information should be completed. States offering assistance can improve the database and facilitate the process of finding a match by ensuring the information in the database is current and accurate. All offers of assistance should clearly specify the scope of the assistance offered, time considerations, the process to solicit the assistance, and who can request it (governments, academia, industry, individuals, etc.). States seeking assistance have the equally important responsibility to define clearly the type of assistance needed. Some countries find it difficult to identify and prioritize needs, but well-defined, concrete requests for assistance have better chances of

success. There are no easy, quick, one-size fits-all solutions. Countries need tailored, sustainable, alternatives to build capacity and close those gaps that impede the full implementation of the Convention. The good news is that there are organizations that can assist countries with this particular step of identifying needs, breaking them into smaller, concrete requests for assistance that are easier to meet, thereby increasing their chances of finding a match.

12. **Keep information current:** Offers and requests that have been fulfilled or are no longer available should be removed from the database. States Parties that have submitted offers or requests should review them at least annually to ensure that they remain current and accurate. States Parties should be encouraged to notify the ISU of specific deadlines, grant opportunities, and other time-limited events that are of immediate interest so that they can be posted on the "Latest News" portion of the BWC website and/or included in the newsletter, rather than the database.

13. It is also important—though evidently challenging--for all States Parties offering and receiving assistance to inform the ISU of pertinent developments, including when a request is met. This can include information about what transpired, lessons learned, next steps, and needs that may remain unfulfilled. Having this type of information in the database would demonstrate how the mechanism is working and serve to educate Parties on how to improve their own national processes with a view to future matches.

14. **Expand partnerships and include information about assistance from other sources:** The purview of the BWC goes well beyond the activities of its States Parties. Many of the assistance programs currently available are not undertaken by governments but rather by other actors. Some of these entities have developed innovative and agile programs to provide capacity-building assistance to countries in need of relevant assistance. Unsurprisingly, therefore, BWC intersessional meetings have featured active participation from a wide range of such actors, including experts from the 1540 Committee, the World Health Organization, World Organization for Animal Health, the Food and Agriculture Organization, and numerous NGOs, foundations, and partnership organizations.

15. The relevance of these actors to the BWC is well established and their availability to provide assistance is clear. They have resources, experience, and capacity to help meet long-unfulfilled gaps in States Parties' implementation of the Convention, but their programs are not always explicitly included in the Article X database. An efficient and complete assistance and cooperation process should include offers and programs from these intergovernmental and non-governmental actors. The United States believes it is in the best interest of BWC States Parties to take advantage – to the extent possible - of the expertise, wisdom, and experience of such entities as a way to advance the full implementation of the Convention. Recognizing that the Database belongs to BWC States Parties, we recommend that Parties explore ways to incorporate information about relevant non-governmental programs in the BWC Assistance and Cooperation Database. In addition, the ISU should further develop relationships with such entities to ensure active sharing of information among networks of assistance providers.

16. **Create networking opportunities for assistance providers and experts from States Parties:** No database entry can substitute for the value of an interactive discussion between an assistance provider and those representatives of a State Party best positioned to articulate its needs. Such conversations frequently take place on the margins of BWC meetings, and are occasionally complemented by side events or posters highlighting specific programs or instances of bilateral cooperation, but there is room here for improvement. The Global Partnership, for example, has hosted a number of "matchmaking sessions" in which funders are able to meet with prospective partners – whether countries in need of assistance, or technical assistance providers in search of funding – to exchange

information and explore possible opportunities for cooperation. This and other models should be explored as means of complementing the formal work of MX 1.

17. **Link to useful references, tools, and resources:** Whether the issue is promoting investment and facilitating technology transfer, drafting national implementing legislation, human resource development for public health, laboratory safety and security, research oversight, law enforcement investigation and cooperation, or any of a number of other topics, a wealth of resources, generated by international organizations, BWC States Parties, and others exists: guidelines, reference documents, training materials, online courses, and various other tools. Examples include WHO's laboratory biosafety manual, Interpol's biological crime scene training videos, or the handbook on joint law enforcement/public health investigations published by the U.S. FBI and CDC. These are not offers of assistance, but they are publicly available tools that can be of great value to States Parties. The ISU should be encouraged to include organized information about these resources, with links to the materials, as part of the assistance and cooperation portion of the BWC website. This would greatly enhance the utility of the website for States Parties – and it would also increase the likelihood that States Parties would turn to the BWC website as a resource, including for offers and requests of assistance.

18. **Explore ways to assist States Parties to identify needs and match with sources of assistance:** As noted above, needs identification is critical to effective resource mobilization: it is the step that permits a State Party to clearly articulate its needs, to identify prospective partners, and to formulate a clear and effective request for assistance. Often overlooked is the fact that this is a challenging set of tasks, and one that a database of offers and requests is not particularly suited to addressing. States Parties should investigate possible means of addressing this. It might be possible to draw upon tools such as 1540 or other national action plans, the results of WHO Joint External Evaluations, or other processes, including the findings of peer/implementation reviews. Alternatively, or additionally, it might be possible to establish a voluntary fund to support expert needs assessments. A third approach might be to establish a dedicated post for a Capacity-Building Officer in the ISU, as proposed by the United States at the Eighth Review Conference. Such a position would work closely with States Parties to help them identify gaps in their national systems; to coordinate with assistance providers, be it governments or other entities; and to assist in the allocation of resources where they are most needed.

IV. Conclusions

19. The intersessional program of work adopted by the 2017 Meeting of States Parties gave us the mandate and the responsibility to identify new, efficient, and sustainable ways to strengthen assistance and cooperation under Article X. The adoption of all the modest changes we suggest above would serve to fine tune and greatly facilitate matching requests and offers of assistance. However, new tasks would require new resources. The experience of the BWC Cooperation and Assistance Database thus far illustrates a great deal can be accomplished with a relatively modest investment – but that investment is nonetheless required.

BWC/MSP/2018/MX.1/WP.10

10 August 2018

English and Russian only

Meeting of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction

2018 Meeting
Geneva, 4-7 December 2018

Meeting of Experts on Cooperation and Assistance, with a Particular Focus on Strengthening Cooperation and Assistance under Article X
Geneva, 7-8 August 2018
Item 4 of the provisional agenda
Consideration of the reports of the States Parties on their full and comprehensive implementation of all provisions of Article X

Participation of the Russian Federation in implementation of the Article X of the BTWC

Federal Service for Surveillance on Consumer Rights Protection and Human Well-being (Rospotrebnadzor): Comprehensive Program of Capacity Building in Eastern Europe and Central Asia in the Prevention, Control and Surveillance of HIV/AIDS and Other Infectious Diseases

Submitted by the Russian Federation

Phase I-II

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Terms of implementation: 2013-2018.

Countries participating in the project: **Armenia, Azerbaijan, Belarus, Kyrgyzstan, Tajikistan, Uzbekistan.**

Implementation arrangements:

- target contribution to UNAIDS on the implementation jointly with Russia of capacity-building activities in Eastern Europe and Central Asia in prevention, control and surveillance of HIV / AIDS and other infectious diseases;
- logistical support of laboratories for the diagnosis of infectious diseases in the countries of Eastern Europe and Central Asia, including the supply of equipment and consumables, monitoring the quality of work;
- training of laboratory specialists,
- joint epidemiological research activities.

Objective:

- improve the total capacity of the region of Eastern Europe and Central Asia to fight and prevent HIV infection;
- training of highly qualified personnel of the countries of the region on HIV/AIDS prevention, research and control;
- reduction of the risk of importation and spread of HIV and other diseases in the Russian Federation.

Activities:

- more than 1,700 healthcare and social professionals were trained;
- 63 sets of laboratory equipment, more than 500 thousand Russian diagnostic kits and vaccines were delivered to recipient countries;
- 2 training centres for migrants were established;
- 9 mobile therapeutic-prophylactic modules "Diagnostics" on the basis of KAMAZ were donated.

Results:

- increased laboratory and personnel capacity in recipient countries in the field of prevention and control of HIV/AIDS;
- strengthened cooperation between Rospotrebnadzor institutions and science and medical institutions of the recipient;
- VI international conference on HIV/AIDS in Eastern Europe and Central Asia was held in Moscow in April 2018.

Further activity:

The third stage of the program is planned until 2022 and provides for the next target contribution to UNAIDS, the continuation of joint epidemiological research activities, training of laboratory specialists, free supply of Russian laboratory equipment and test-systems to partner countries.

Program of logistical and methodological support of countries in Eastern Europe and Central Asia in the introduction and implementation of the International Health Regulations (2005) (IHR)

Phase I-II

Terms of implementation: 2014-2019.

Countries participating in the project: **Uzbekistan, Azerbaijan, Belarus, Kyrgyzstan, Turkmenistan, Tajikistan, Armenia, Kazakhstan.**

The implementation arrangements:

- voluntary target contribution to WHO for the implementation of measures to assist countries in the IHR introduction;
- Russian logistical and methodological support for the introduction and implementation of the IHR to the countries of Eastern Europe and Central Asia (EECA).

Objective:

- creation and supply of mobile laboratories for EECA countries;
- joint research activities;
- manuals development and trainings of epidemiologists and microbiologists from EECA countries;
- regional meetings and conferences with representatives of EECA countries.

Activities:

- 12 express diagnostics microbiological laboratories on the basis of car chassis were donated (2 to Armenia, Belarus, Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan);
- field work to instruct specialists was conducted;
- the electronic educational and methodical complex on especially dangerous infectious diseases was created;
- about 1000 specialists from EECA countries were trained.

Results:

- laboratory bases of the EECA countries were strengthened to respond to sanitary-epidemiological emergencies;
- increased level of training of the EECA countries specialists responsible for sanitary and epidemiological wellbeing of the population;
- methodological, technological and human capacities were strengthened.

Russian-Guinean scientific and technical cooperation in the field of fight against infectious diseases in the Republic of Guinea

Phase I-II

Terms of implementation: 2015 – 2020.

Objective: **to strengthen the national scientific, human and laboratory capacities of the Republic of Guinea.**

Activities:

- creation of stationary laboratories of the Russian-Guinean research centre of epidemiology and prevention of infectious diseases;
- implementation of 15 joint research activities on the study of epidemiology, ecology and distribution of dangerous, socially significant, natural-focal infectious diseases;
- more than 120,000 clinical and 50,000 field material studies were conducted;
- more than 700 Guinean specialists were trained under 13 programs.

Results:

- foundation of the Russian-Guinean research centre of epidemiology and prevention of infectious diseases;
- priority scientific data on molecular-genetic features of circulating strains of Ebola virus and other pathogens of especially dangerous infections are obtained;
- development and improvement of highly-accurate test-systems for pathogen detection;
- new means of diagnostics of actual infectious diseases were introduced into practice;
- strong cooperation in the field of sanitary and epidemiological wellbeing of the population;
- the Guinean system for the control and surveillance of infectious diseases was strengthened.

Program of assistance to the Socialist Republic of Vietnam on combating the threats of infectious diseases, improvement of hygienic surveillance of hazardous chemicals

Terms of implementation: 2017-2019.

Objective:

- improve scientific, human and laboratory capacity of the Socialist Republic of Vietnam in the field of combating threats of infectious diseases and hygienic surveillance;
- increase preparedness of the whole South-East Asian region to respond to outbreaks of infectious diseases.

Activities:

- 7 collaborative research activities are being conducted by 8 Rospotrebnadzor scientific organizations of epidemiological and hygienic profile;
- training of Vietnamese personnel in prevention, control, laboratory diagnosis of infections and improvement of hygienic surveillance;
- technical support to Vietnam;
- supply of mobile laboratory.

Results:

- improvement of the system of sanitary-epidemiological surveillance, food safety in the Socialist Republic of Vietnam;
- strengthening, developing and improving the efficiency of the Joint Russian-Vietnamese Tropical research and technology centre;
- building a system of rapid information exchange between Russia and Vietnam on the incidence and detection of unsafe food products.

Reduction of risks of antimicrobial resistance (AMR) in the Eurasian space

Terms of implementation: 2017-2019.

Countries participating in the project: **Armenia, Belarus, Kazakhstan, Kyrgyzstan, Tajikistan.**

Objective:

- reduction of the risks of growing antimicrobial resistance in public health and agriculture;
- strengthening regional capacity in Eastern Europe and Central Asia to combat AMR.

Activities:

- target contribution to FAO for the implementation of measures to support EECA countries in preventing the spread of pathogens, that are resistant to treatment with antimicrobials;
- creation of a reference-center on the basis of Rospotrebnadzor for monitoring and study of microorganisms that are resistant to antimicrobials, as well as monitoring of antibiotics residues in food raw materials and food;
- providing technical assistance to laboratories in the partner countries, supply of reagent kits and consumables for "in vitro" diagnostics;
- training of specialists from Armenia, Belarus, Kazakhstan, Kyrgyzstan and Tajikistan (48 people);
- researches of food samples to determine the residues of antibiotics:
- by method LC-MS-MS – 59 samples/90 researches
- by method of enzyme immunodetection – 8 samples /8 researches
- by microbiological methods – 37 samples /95 researches

Results:

- international conference "Food safety and analysis of risks" was hold in May 2017;
- creation of the reference-center of Rospotrebnadzor for monitoring of antibiotics residues in food raw materials and food and antibiotic resistance of bacteria;
- development of the 2 methodological documents on sample preparation and determination of the residual amounts of antibiotics in food products;
- the program module "Monitoring of antibiotics in food" was developed.

Program of cooperation with foreign countries to reduce the risks of import and spread of plague from transboundary natural foci

Terms of implementation: 2016-2019.

Countries participating in the project: **Armenia, Kazakhstan, Kyrgyzstan, China, Mongolia.**

Objective:

- intensification of international cooperation in studying natural foci of plague and implementation of anti-epidemic measures;
- reduction of the risk of the occurrence of plague's diseases among the population of Russia and other countries, as well as the possible import of plague from the territory of foreign countries.

Activities

- conduction of joint epizootological researches of the Sailyugem natural foci of plague with Mongolia (for the first time in 25 years), Talas high-mountain natural foci of

plague with Kyrgyzstan and Transcaucasian high-mountain natural foci of plague with Armenia;

- joint exercises with the appearance of a conditional patient with suspected plague at checkpoints across the state border of Russia and Kazakhstan, Russia and Mongolia;
- other joint epidemiological research activities;
- training of personnel on prevention, diagnosis of plague and epidemiological surveillance of natural foci;
- increasing the level of logistical equipment of specialized institutions by providing Russian laboratory and disinfection equipment and test-systems.

Results:

- organization of the system to monitor epizootological-epidemiological situation in the transboundary natural foci of plague based on the unified algorithms to synchronize and improve the efficiency of anti-epidemic measures;
- increasing the regional capacity to do preventive and anti-epidemic measures in the case of plague, as well as the localization and elimination of an emergency situation of sanitary-epidemiological nature that is caused by the plague.

Modernization of SAEU and strengthening of national, regional and global network of emergency response related to dangerous infectious diseases

Terms of implementation: 2018-2020.

Countries participating in the project: **Armenia, Kyrgyzstan, Mongolia, Uzbekistan.**

Objective

- strengthening of the international network for counteraction against emergencies related to epidemics of dangerous infectious diseases, consequences of natural disasters and humanitarian disasters, based on the strengthening of national capacities of the partner countries, as well as the improvement of specialized anti-epidemic units (SAEU) of Rospotrebnadzor.

Activities:

- modernization of mobile SAEU of Rospotrebnadzor;

- donation of 4 mobile SAEU of Rospotrebnadzor to Armenia, Kyrgyzstan, Mongolia, Uzbekistan.

Results:

- building capacity of the global system to combat infectious disease outbreaks based on the use of Russian innovative response technologies;
- improving the efficiency of SAEU activities on warning and response to emergency situations in the field of sanitary-epidemiological wellbeing of the population both in Russia and abroad;
- strengthening of response capabilities to emergency situations of sanitary-epidemiological nature in the CIS, SCO, EEU.

Initiatives to combat infectious diseases promoted by Russia within the framework of membership in regional associations (EAS, SCO)

Building effective cooperation with partner countries for the prevention and control of infections within the framework of regional intergovernmental organizations is one of the most important components of Russia's humanitarian cooperation.

In 2017, the fifth meeting of heads of state services - SCO members responsible for providing for sanitary-epidemiological wellbeing was held by Rospotrebnadzor. The representatives of all SCO States, including new members – India and Pakistan, took part in this event. Participants emphasized the importance of regular meetings at the level of heads of state services - SCO members responsible for providing for sanitary-epidemiological wellbeing as an effective mechanism of specialized cooperation. The result of the event was the adoption of the Final Statement of the meeting, whose participants supported the proposal of Russia to prepare in 2018 a joint statement of the Council of State heads of the SCO on cooperation in countering the threats of epidemics in the SCO space.

The EAS participating countries' public health senior officials and experts meeting on EAS cooperation in the field of communicable diseases control and prevention was held for the first time in 2017 at the initiative of Rospotrebnadzor. During the event participants discussed the current health threats in the Asia-Pacific region, coming from infections, and the risks of emergence of large-scale epidemics, which not only have a negative effect on health systems, but also hinder the sustainable social-economic development of the region. The participants of the meeting considered it expedient to continue holding such meetings and proposed to consider the possibility of organizing a high-level meeting of this format in 2018.

The Ministry of Agriculture of the Russian Federation

The joint Russian-Mongolian program

"Sanitation of Mongolian livestock"

Phase II

Terms of implementation: 2017-2018.

Objective:

- provision of epizootic welfare on FMD (foot-and-mouth disease) in Mongolia.

Activities:

- delivery of 4119,20 thousand doses of Russian-made vaccine against FMD;
- doing the monitoring researches of tension of immunity in vaccinated animals against FMD and circulation of FMD virus in areas of vaccination in the surveillance zone.

Results:

- providing the welfare of the territory of Mongolia on FMD.